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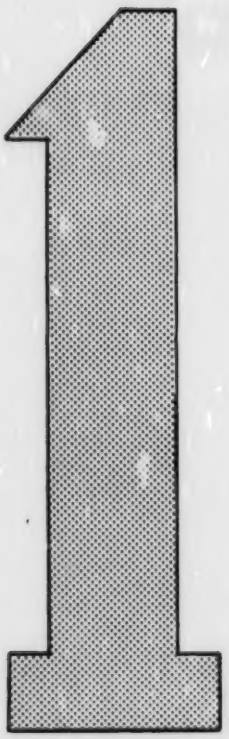
AEROS MANUAL SERIES
VOLUME III:
SUMMARY AND RETRIEVAL

UPDATE
Number



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LIST OF ABBREVIATIONS

AEROS.....Aerometric and Emission Reporting System
AQDM.....Air Quality Display Model
AQCR.....Air Quality Control Region
AQDHS-II....Air Quality Data Handling Subsystem-II
ATS.....AEROS Terminal System
CAASE.....Computer-Assisted Area Source Emissions
CDHS.....Comprehensive Data Handling System
CDM.....Comprehensive Data Management
EIS/P&R.....Emissions Inventory Subsystem/Permit and Registration
EMS.....Enforcement Management Subsystem
FMVECP.....Federal Motor Vehicle Emissions Control Program
FPC.....Federal Power Commission
GMT.....Greenwich Mean Time
HATREMS.....Hazardous and Trace Emissions System
IPP.....Implementation Planning Program
MSL.....Mean Sea Level
NAAQS.....National Ambient Air Quality Standard
NADB.....National Air Data Branch
NCC.....National Computer Center
NEDS.....National Emissions Data System
NER.....National Emissions Report
OGC.....Office of General Counsel
QCI.....Quality Control Index
QAMIS.....Quality Assurance Management Information System
REPS.....Regional Emissions Projection System
SAROAD.....Storage and Retrieval of Aerometric Data
SDS.....Systems Development Section
SCC.....Source Classification Code
SEAS.....Strategic Environmental Assessment System
SIC.....Standard Industrial Classification Code
SIEFA.....Source Inventory Emission Factor Analysis
SIP.....State Implementation Plan
SMSA.....Standard Metropolitan Statistical Area
SOTDAT.....Source Test Data System
TCP.....Transportation Control Plan
UTM.....Universal Transverse Mercator
WSAP.....Weighted Sensitivity Analysis Program

ABSTRACT

The AEROS Summary and Retrieval Manual, Volume III of the OAQPS Guidelines Manual Series, describes and illustrates the reporting and analysis capabilities of the various AEROS systems. The reports available from each of the major systems are described and their retrieval options are explained. Sample computer printouts are used to illustrate the report formats.

This manual also describes the analysis packages available for use in the evaluation of AEROS data and describes the user access procedures for obtaining AEROS reports. It describes the standard publications available from the NADB to provide quarterly or annual information on emissions and air quality.

In an applications section, the manual provides specific examples of applications of AEROS data. The use of AEROS reports in typical air quality control activities is described.

The manual also gives an overview of the Comprehensive Data Handling System (CDHS), which is an AEROS-related system for storing and reporting air quality and emissions data.

This section is used to document Update procedures and record Updates when they are issued and posted in this volume.

Chapter 0.1 describes background and Update procedures. Chapter 0.2 is used to file Update Notices.

As the usefulness of the AEROS Manuals is highly dependent on their completeness, accuracy and timeliness, the following provisions have been made to allow for revisions in the interim between periodic complete review and reprinting of volumes. Revisions will be accomplished through the issuance of AEROS Manual Updates, which may contain one or more separate revisions to a given Volume.

Responsibility for technical aspects of revisions is held by the groups in NADB responsible for the relevant system or operation, while compilation of revisions into Updates, and reproduction and distribution are overseen by the AEROS Manual Project Officer, Requests and Information Section.

These Updates will ordinarily be distributed to specific parties in OAQPS and other selected internal users and to AEROS Contacts in Regional Offices, who are designated holders of the appropriate AEROS Manual Volumes by their respective organizational units. These recipients are responsible for reviewing each Update and inserting it in the appropriate Volume and removing outdated portions as directed. They should also notify persons in their organizations to whom specific revisions may be of importance, and provide copies of revisions to those persons requiring them.

Three distinct types of revisions are foreseen: Urgent, Priority and Routine. Urgent revisions must be issued and entered into Manual Volumes as soon as possible to prevent adverse effects on operations.

Prior to compilation in a formal Update, drafts of Urgent revisions will be distributed to NADB and Regional Offic AEROS Contacts with instructions on the timing of their use in system operations. These drafts should be filed in the appropriate Manual Volumes immediately preceding the portions to be replaced, pending issuance of the formal Update. Due to their importance, Urgent revisions will be issued by RIS as soon as complete, along with any other revisions which are ready for distribution at that time.

Priority revisions are substantive changes not crucial to system operations, and will generally be issued in Updates on a quarterly basis or combined with Urgent Updates when appropriate. Routine revisions are relatively minor changes such as editorial corrections, and will be included in regular or Urgent quarterly Updates as available.

Updates will consist of the actual revisions and any attendant changes to the Volume's Table of Contents, in appropriate format, accompanied by an Update Notice and any memoranda deemed appropriate by RIS. Updates will be compiled and numbered separately by AEROS Manual Volumes, with the Update Notice serving as an index and guide to implementation of the Update. The Update Notice will specify pages or sections to be removed and/or inserted, with descriptive comments on the content and relevance of changes. It will also include a summary of dates and numbers of previous Updates to the subject Volume, for verification of currency of the Volume. Upon receipt of an Update,

the changes should be made as indicated on the Update Notice and the Notice itself initialed and filed in Section 0, Chapter 2.

A full compilation of Update Notices for each Manual Volume, entitled "Summary of AEROS Manual Updates: Volume ___," is available to users by request to:

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This document will allow the user to examine all previous Updates to determine the currency of any copy of the Volume, and, through the comments, possible relevance of revisions to specific areas of interest. This reference is provided especially for infrequent users and others not receiving Updates on a regular basis.

User input on the AEROS Manuals and possible revisions is welcomed. Technical or substantive matters should be referred directly to the cognizant party in NADB, if possible. Any questions on the appropriate source of technical information and any questions, comments or suggestions on the coverage, organization and other such aspects of this Volume should be directed to:

AEROS Manual Project Officer, MD-14
Requests and Information Section
National Air Data Branch
Environmental Protection Agency
Research Triangle Park, N.C. 27711

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ENVIRONMENTAL PROTECTION AGENCY	SECTION Volume III Updates	SECTION 0	CHAPTER 2	SUBJECT 0
NATIONAL AIR DATA BRANCH	CHAPTER Update Notices	DATE 2/7/77	PAGE 1	
VOLUME III. AEROS SUMMARY AND RETRIEVAL MANUAL	SUBJECT	Update III-1		

This Update Notice concerns the enclosed replacement pages for Volume III of the AEROS MANUAL SERIES. Please remove and insert pages as listed below.

	REMOVE	INSERT	COMMENTS
1.	v to xiv	v to xiv	Routine. Contents revised to reflect Update.
2.	--	0.0.0-1 to 0.1.0-4	Priority. New section describing Update procedures.
3.	--	0.2.0-1 to 0.2.0-2	Routine. Update Notice III-1.*
4.	2.1.0-1 to 2.1.0-5	2.1.0-1 to 2.1.0-8	Priority. Two new reports listed. Contents of existing pages editorially revised.
5.	2.1.1-1 to 2.1.1-16	2.1.1-1 to 2.1.1-17	Routine. Correction in county code example, comment section expanded, and sample report section expanded.
6.	2.1.2-13 to 2.1.2-14	2.1.2-13 to 2.1.2-14	Priority. Revised to correct retrievals available.
7.	2.1.2-19	2.1.2-19 to 2.1.2-27	Priority. Two new reports added.
8.	2.3.1-1 to 2.3.1-21	2.3.1-1 to 2.3.1-21	Priority. Descriptions of "Raw Data Listings Greater Than or Equal to 24 Hours" and "Raw Data Listing Composite" revised and combined. Improperly placed page replaced with proper page 2.3.1-14. Other pages editorially revised.
9.	2.3.2-1 to 2.3.2-17	2.3.2-1 to 2.3.2-20	Priority. Revision of report descriptions.
10.	2.10.5-1	2.10.5-1 to 2.10.5-6	Priority. Documentation of Polk vehicle reports.

REMOVE	INSERT	COMMENTS
11. 5.1.2-1	5.1.2-1	Priority. Revised to correct page reference.
12. 6.5.2-1	6.5.2-1 to 6.5.2-2	Routine. Correction of typographical error.

UPDATE SUMMARY

Volume III

Number	Date
III-1	2/7/77

* When you have made the changes indicated in this Notice, initial the Notice and insert it in Chapter 0.2.0 of Volume III as a record of the Updates received and filed.

NOTE: Priority update information on the enclosed update pages is indicated with a vertical line in the left margin. Routine update information is not specifically identified.

The National Emissions Data System is a computerized data handling system which accepts, stores, and reports on information relating to sources of any of the five criteria pollutants (particulates, SO_x, NO_x, CO, and hydrocarbons). In NEDS, a major distinction is made between two types of sources: point sources and area sources. Point sources, in the broadest sense, are stationary sources large enough to be identified and tracked individually; per NEDS reporting requirements, they are any plants emitting more than 100 tons/year of any of the criteria pollutants. Area sources, on the other hand, are those stationary and mobile sources which individually emit less than 100 tons/year and are too small and too numerous to keep individual records on. In NEDS, area sources are considered collectively on a county basis. A large boiler within a power plant would be an example of a point source, whereas a single automobile is an example of the type of source considered collectively as an area source.

In NEDS, all source-related data are entered into the system via specially formatted point and area source coding forms and are stored in separate point and area source files. The type of data stored in the system for point and area sources is somewhat different and is described below.

POINT SOURCE DATA

The point source data in NEDS fall into the following major groups: General source information--name, address, types of source, Standard

Industrial Classification, year of record, comments, etc.

Emissions data--operating or production rates and capacities, estimated emissions, EPA calculated emissions, control device type and efficiency on each criteria pollutant, etc.

Modeling parameters--UTM coordinates of source, stack height and diameter, exhaust gas temperature, and flow rate.

Compliance information--allowable emissions, compliance status, schedules, etc.

These data are input to NEDS in the standard point source format, an example of which is illustrated in Figure 2.1.1.e.

NEDS point source data are organized into three hierarchial levels.

- Plant level data (corresponding to input card 1) is general information that applies to an entire facility defined as a point source.

- Point level data (corresponding to input cards 2-5) applies to individual emission points within a plant. A plant may contain any number of emission points. A point is that portion of a facility that may be considered individually for emission purposes. A point may contain one or more processes or pieces of equipment that are related in contributing to the emissions from the point. In most cases, a point emits pollutants through a single confined location such as a stack, but it may emit pollutants at more than one location or at no clearly defined location within a plant.

- Process level data (corresponding to input card 6) are source data or use factors which may be used to define and compute emissions for process activities within an emission point. In NEDS, processes are defined by Source Classification Codes (SCC's). In general, for each SCC there are emission factors which relate the quantity of pollutants generated by a process to annual process operating rate. NEDS uses a file of emission factors associated with each SCC to compute emissions. There may be multiple SCC's for an emission point. For instance, if a boiler is defined as an emission point and it burns two fuels, two SCC's are needed to define these processes and allow emissions to be computed. In another example, if an asphalt batch plant is defined as an emission point, emissions may result from aggregate drying, burning fuel to provide heat for the process, and various material transfer points associated with loading and converging of the product. Multiple SCC's would be required to describe all of these processes.

The point source file provides for the use of alternate methods for determining the emissions which are reported. Most commonly, emissions will be calculated for each SCC using the emission factors in the SCC Emission Factor file. However, by use of an appropriate code on the input form and completion of fields for recording hand calculated emission estimates, more accurate estimates of emissions may be input to represent point emissions in place of the emission factor computed emissions. For some SCC's, no emission factors are available, so an alternate method must be used to estimate emissions for these records.

A list of the possible emission estimation methods used for NEDS point source calculations is given below.

0. No emissions
1. Stack-test results or other emission measurement
2. Material balance using engineering knowledge and expertise of process
3. Emissions calculation using emissions factors in SCC file
4. Guess
5. Emissions calculation using special emission factors that differ from the SCC listing
6. New source for which building approval has been granted but which is not yet in operation (zero emissions)
7. Source which has ceased to operate (zero emissions)

The procedure for computer calculation of emissions for each of these cases is as follows:

Methods 0, 6 and 7: Calculated emissions are set to zero.
Methods 1, 2, 4, and 5: Calculated emissions are set equal to hand calculated emission estimates. These must be distributed among multiple SCC's for a point, if necessary.
Method 3: Calculated emissions are derived as:

$$\text{Calculated Emissions} = \left(\text{Annual operating rate for SCC}\right) \times \left(\frac{\text{Emission factor from SCC File}}{2{,}000}\right) \left(\text{Fuel parameter if applicable}\right) \times \left(\frac{\text{100-control efficiency}}{100}\right)$$

AREA SOURCE DATA

NEDS area source data may be grouped as follows:

General source information--name and location of area (county) source, year of record.

Activity levels--countywide activity level of each type of area source (e.g., tons of coal burned in all domestic space heating equipment in a county).

Emissions data--emission estimates for the entire county (for each pollutant) as well as for each area source category.

These data are input to NEDS in the standard area source format which is illustrated in Figure 2.1.1.f.

The area source activity levels are derived primarily from related information published by other Federal agencies, supplemented by special data developed by EPA for the purpose of developing NEDS area source inventories. Published data such as fuel use by state, motor vehicle miles of travel by state and county and forest fire acres burned by state are used with related data such as employment, population, and miscellaneous geographic or economic data available on a county-by-

county basis to derive annual estimates of the activity levels for each of the NEDS area source categories. The activity levels derived are adjusted to account for point source activity (such as fuel use by point sources) so that the area source data reflect only the activity levels (and resulting calculated emissions) that are not accounted for by point sources. The area source data are developed mainly by EPA, but may be supplemented by data voluntarily submitted by state agencies.

The area source emission estimates are calculated for each source category by a simple procedure:

$$\text{Calculated Emissions} = \left(\text{Activity Level}\right) \times \left(\frac{\text{Emission Factor}}{2{,}000}\right) \times \left(\begin{array}{c}\text{Fuel Parameter,}\\ \text{if applicable}\end{array}\right)$$

Emission factors are contained in the NEDS area source emission factor file. For many categories the same emission factors are used for all counties. However, for some source categories, state- or county-specific emission factors have been developed which consider local variables that affect calculation of emissions. These more specific emission factors are used in NEDS calculations for all highway motor vehicle and fugitive dust categories and for selected other categories in a few counties where data are available to develop more applicable emission factors than the national emission factors. Provision is also made, as an option, to override computer calculated emissions for any source category for any county, by hand calculated emissions that may be more accurate than any simple emission factor calculation.

Table 2.1.0.a summarizes the retrieval options available for each NEDS report described in this chapter.

Table 2.1.0.a. SUMMARY OF NEDS RETRIEVALS

Report	Nation	State	EPA Region	AQCR	State Portions of Interstate AQCR's	County	Plant Number	Point Number	Source Classification Code	Ownership	Standard Industrial Classification Code	Emission Estimation Method	Sources Emitting More Than X Tons of Any One Pollutant	Years of Record for AQ Data	Valid Combination of Items
Raw Data Reports															
Point Source Report	x	x		x		x	x	x	x	x	x	x	x		x
Condensed Point Source Report	x	x		x		x	x	x	x	x	x	x	x		x
Area Source Report		x				x			x						
Allowed Versus Computed Emissons Report	x	x				x	x	x							
Point Source Cards	x	x		x		x	x	x	x	x	x	x	x	x	x
Area Source Cards	x	x		x		x			x						
Summary Reports															
Emission Summary Report	x	x	x	x	x	x									
Area Source Fuel Usage Report		x													
Annual Fuel Summary Report	x	x		x		x									
Plant Emission Summary Report	x	x		x		x									
SCC Emissions Report	x														
Plant Name Report	x	x		x		x			x						
Emissions/Air Quality Report				x											
Emissions by SCC Report	x	x		x		x			x						
Potential Emissions Report	x	x		x		x			x						
Management Reports															
Plant-Point-SCC Count Report	x														
Missing Item Report	x	x		x		x									x
Highest Plant Number of County Report		x													

POINT SOURCE REPORT

General Description

Sources emitting more than a specific amount per year of any one of the five criteria pollutants (particulates, sulfur oxides, nitrogen oxides, hydrocarbons, and carbon monoxide) are classified by EPA as point sources.* The basic "Point Source Report" produces a full, formatted listing of all relevant identifying and descriptive point source data as well as estimated and NEDS calculated emissions for each criteria pollutant. More specifically, the following information is available for each emission point+ for each criteria pollutant:

a. Geographic Location
b. Year of Record
c. Modeling Parameters - UTM coordinates, stack height, diameter, temperature, etc.
d. Emission Data - Throughput rate, estimated emissions, estimation method, control equipment, control efficiency, etc.
e. Allowable Emissions
f. Compliance Status
g. Operating Information
h. Annual Fuel Consumption
i. Source Operating Characteristics

Each page of computer output contains the data for one process (SCC).

Retrievals Available

The following "Point Source Report" retrieval options are available:

a. State
b. AQCR

---

* The specific amount is an SIP reporting requirement defined in 40 CFR, Section 51.7. NEDS also accepts data based on a state's definition of a point source.

+ An emission point is a source which is coded on a single NEDS coding form.

c. County
d. Plant
e. Point
f. Ownership Code
g. SIC
h. Emissions Estimation Method
i. SCC (I, I+II, I+II+III, I+II+III+IV)
j. Sources emitting more than x tons of any one pollutant
k. Any combinations of the above

There are only certain combinations of the retrieval categories listed above that are valid. For example, the county code numbers are unique within each state but not across state boundaries. Thus although no two counties in Arizona have the same county code number, 0040 is the county code number both for Apache County in Arizona and Arkansas County in Arkansas. As a result, retrieval by county is only meaningful when combined with retrieval by state.

In the same manner retrieval by plant requires specification of county and state identifiers; retrieval by point requires specification of plant, county, and state identifiers.

It should be noted that the same type of restriction applies to retrieval by SCC parts. Retrieval by SCC part IV is dependent on retrieval by SCC part III, retrieval by part III on retrievals by part II, etc.

Sorts Available

Subject to the same restrictions set forth for "Retrievals Available," the selected data can be sorted in ascending (a) or descending (d) sequence for any of the following data values:

a. State (a)
b. AQCR (a)
c. County (a)
d. Plant Number (a)
e. Point Number (a)
f. Source Classification Code (a)
g. Ownership (Federal, local government, utlity, or all) (a)
h. Standard Industrial Classification (SIC) Code (a)
i. Emissions Estimation Method (a)
j. Plant Names in Alphabetical Order (a)
k. Amount of emissions for any one of the five criteria pollutants (d)
l. Year of Record (a)
m. Control Equipment (a)
n. Control Efficiency (d)
o. Fuel Sulfur Content (d)
p. Fuel Ash Content (d)
q. Major City Code (a)
r. UTM Coordinates (d)
s. Operating Rate (d)
t. Confidentiality (a)

Sample Report

Figure 2.1.1.a is a sample "Point Source Report" retrieval for Colleton County in the State of South Carolina.

Comments

Depending upon the retrieval options selected, some point sources located in the geographic areas under consideration may be omitted from the report listing and some may have more than one emission point selected.

For example, consider a "Point Source Report" based on retrieval by SCC or SIC category. There may well be some point sources located in the requested geographic areas which do not fall within the requested SCC or SIC categories. These point sources will be omitted from the report.

On the other hand, a point source may be included for more than one SCC. When retrieval is by plant, one page of data for such a point source will be printed for each of its SCC's. When determining total plant emissions from such a printout, care must be taken to avoid adding duplicate "Hand Calculated Point Emissions" into the total. The "Computer Calculated SCC Emissions" should be used to determine total plant emissions. The calculated emissions are labeled "Computer Calculated SCC Emissions" on the report. The field labeled "Hand Calculated Point Emissions" reflects emissions for a NEDS emission point which are entered by the data originator. The same values for "Hand Calculated Point Emissions" will be repeated on separate pages for points with more than one SCC. Normally, in such cases, the sum of all "Computer Calculated SCC Emissions" for a point will equal the "Hand Calculated Point Emissions" for points with emission estimation method codes of 1,2,4,5, 6, and 7. Some data conditions may prevent this relationship from always holding true. For points with emission estimation method code 3 (SCC emission factor file calculation), the calculated emissions have no dependence on any hand calculated point emissions that may be reported.

Figure 2.1.1-a. Point source report.

CONDENSED POINT SOURCE REPORT

General Description

The "Condensed Point Source Report" is an abbreviated listing for emission points. To generate this report, a particular pollutant and the minimum value of emissions of that pollutant must be specified. Emission points emitting more than that minimum value of the pollutant will be included in the report.

A heading containing the creation date, minimum value, specified pollutant, and an indication of whether the data are in English or metric units is printed first. Next is displayed a five-line summary for each SCC per emission point.

The five line summary includes the following information for each SCC per emission point: geographic location, ownership, year of record, and annual emissions of each of the five criteria pollutants. Also included are the control equipment, control efficiency, and estimation method relevant to the specified pollutant.

Retrievals Available

The retrievals available for the "Condensed Point Source Report" are exactly the same as those available for the "Point Source Report."

Sorts Available

The sorts available for the "Condensed Point Source Report" are exactly the same as those available for the "Point Source Report."

Sample Report

Figure 2.1.1.b is a sample "Condensed Point Source Report." The pollutant specified is hydrocarbons and the minimum value of the pollutant included is 50 tons. The retrieval requested is for the State of Rhode Island. The condensed point source report presents only "Computer Calculated SCC Emissions," as described for the full point source report.

FILE CREATED ON WEDNESDAY MARCH 12, 1975

NATIONAL EMISSION DATA SYSTEM

CONDENSED POINT SOURCE LISTING FOR HYDROCARBONS
FOR ALL VALUES > THAN OR = TO 50
EMISSIONS ARE IN SHORT TONS PER YEAR

		PART	SOX	NOX	HC	CO
0006: US NAVY AIR STATION, KINGSTON 41: RHODE ISLAND 0380: WASHINGTON 120: METROPOLITAN PROVIDENCE (NAS 060: NO CONTROL EQUIPMENT ESTIMATE BY (3) USED EMISSIONS FACTORS	OWNERSHIP: FEDRL GOVT YEAR OF RECORD: 1969 EFF = % POINT: 07 SIC = 4953 SCC = 5-01-002-01	93	6	35	175	496
0040: PROVIDENCE DUMP, PROVIDENCE 41: RHODE ISLAND 0320: PROVIDENCE 120: METROPOLITAN PROVIDENCE (NAS 060: NO CONTROL EQUIPMENT ESTIMATE BY (3) USED EMISSIONS FACTORS	OWNERSHIP: LOCAL GOVT YEAR OF RECORD: 1969 EFF = % POINT: 02 SIC = 4953 SCC = 5-01-002-01	40	3	15	75	213

Figure 2.1.1.b. Condensed Point Source Report

AREA SOURCE REPORT

General Description

Area sources are an aggregation of all sources not defined as point sources in a specific geographic area. Area sources usually include all mobile sources and any stationary sources too small, difficult, or numerous to classify as point sources. Area source emissions are assumed to be spread over the entire area that has been defined as an area source. Activity level data for these sources are compiled on a countywide basis. The "Area Source Report" is a formatted listing of the following information for each area source retrieved:

a. Area identification
b. Total emissions estimated from SIP's
c. Activity of stationary sources
d. Activity of solid waste disposal
e. Activity of mobile sources - fuel usage
f. Activity of miscellaneous sources
g. Total calculated emissons

Two area sources are printed per page of computer output.

Retrievals Available

The "Area Source Report" retrieval options are as follows:

a. State
b. State/County

Sorts Available

Area sources are sorted sequentially within state by county. No other sort options are available for area sources.

Sample Report

Figure 2.1.1.c is a sample "Area Source Report" retrieved for the first two counties of the State of Rhode Island.

SOURCE ID: A STATE- 41 COUNTY- 0060 AQCR- 120 YEAR- 72

EM-EST-PRT(100-TONS)=		EM-EST-SO2(100-TONS)=		EM-EST-NOX(100-TONS)=		EM-EST-HC(100-TONS)=	
EM-EST-CO(100-TONS)=		% SULF-ANTH-COAL=	0.7	% SULF-BITUM-COAL=	2.0	% SULF-DIST-OIL=	0.2
% SULF-RESID-OIL=	0.7	% ASH-ANTH-COAL=	11.0	% ASH-BITUM-COAL=	8.0	RES-ANTH(10-TONS)=	15
RES-BITUM(10-TONS)=	0	RES-DIS-OIL(10E4-GAL)=	1034	RES-RID-OIL(10E4-GAL)=	0	RES-N-GAS(10E7-CUFT)=	53
RES-WOOD(100-TONS)=	2	CI-ANTH(10-TONS)=	4	CI-BITUM(10-TONS)=	3	CI-DIS-OIL(10E4-GAL)=	168
CI-RID-OIL(10E4-GAL)=	380	CI-N-GAS(10E7-CUFT)=	23	CI-WOOD(100-TONS)=		IND-ANTH(10-TONS)=	0
IND-BITUM(10-TONS)=	36	IND-COKE(10-TONS)=		IND-DIS-OIL(10E4-GAL)=	285	IND-RD-OIL(10E4-GAL)=	295
IND-N-GAS(10E7-CUFT)=	17	IND-WOOD(100-TONS)=		IND-PR-GAS(10E7-CUFT)=			
RES-OS-INC(10-TONS)=	40	IND-OS-INC(100-TONS)=	1	CI-OS-INC(100-TONS)=	4	PART-EMS(T/YR)=	363.090
RES-OP-BRN(100-TONS)=	73	IND-OPN-BRN(100-TONS)=	7	CI-OPN-BRN(100-TONS)=	6	SO2-EMS(T/YR)=	672.150
GAS-LT-VEH(1000-GAL)=	15879	GAS-HWY-VEH(1000-GAL)=	1859	GAS-OFF-HWY(1000-GAL)=	0	NOX-EMS(T/YR)=	1996.249
DIE-HV-VEH(1000-GAL)=	1080	DIE-OFF-HWY(10E4-GAL)=	32	DIE-RR-LOC(10E4-GAL)=	4	HC-EMS(T/YR)=	3446.594
COUNTY-POP(1000)=	45	DENSITY-CODE=	9	MIL-AIRCRAFT(100--TO)=		CO-EMS(T/YR)=	16886.487
CIV-AIRCRAFT(10-LTO)=		COMM-AIRCRAFT(10-LTO)=		VES-BITUM(10-TONS)=	0	NO. 6-EMS(T/YR)=	0.000
VES-DIE-OL(10E4-GAL)=		VES-RID-OIL(10E4-GAL)=		VES-GAS(1000-GAL)=	711	NO. 7-EMS(T/YR)=	0.000
EVAP-SOLVENT(T/YR)=	112	EVAP-GAS(10E5-GAL)=	175	VEH-MI-LA-RD(10E4-MI)=		NO. 8-EMS(T/YR)=	0.000
VEH-MI-RURL(10E4-MI)=		VEH-MI-SUBAN(10E4-MI)=		VEH-MI-URBAN(10E4-MI)=		NO. 9-EMS(T/YR)=	0.000
DIRT-RD-TRV(1000-MI)=		DIRT-AIR-STRIPS(LTO)=		CONST-LAND(1000-ACRE)=		NO. 10-EMS(T/YR)=	0.000
ROCK-H-ST(1000-TONS)=		FOREST-FIRE-AR(ACRES)=		FOR-FIRE QU(TON/ACRE)=		NO. 11-EMS(T/YR)=	0.000
SLASH-BRN-ARE(ACRES)=		SLASH-BN-QU(TON/ACRE)=		ORCHARD-HEATERS(100)=		NO. 12-EMS(T/YR)=	0.000
ORCH-DA-FIRED(DA/YR)=		STRUCTURE-FIRES(#/YR)=		CRB-SIZE-BK(100-CUYD)=			
COAL-REF-BURN(#/YR)=		COMMENTS=					

2.1.1-9

SOURCE ID: A STATE- 41 COUNTY- 0140 AQCR- 120 YEAR- 72

EM-EST-PRT(100-TONS)=		EM-EST-SO2(100-TONS)=		EM-EST-NOX(100-TONS)=		EM-EST-HC(100-TONS)=	
EM-EST-CO(100-TONS)=		% SULF-ANTH-COAL=	0.7	% SULF-BITUM-COAL=	2.0	% SULF-DIST-OIL=	0.2
% SULF-RESID-OIL=	0.7	% ASH-ANTH-COAL=	11.0	% ASH-BITUM-COAL=	8.0	RES-ANTH(10-TONS)=	63
RES-BITUM(10-TONS)=	0	RES-DIS-OIL(10E4-GAL)=	3346	RES-RID-OIL(10E4-GAL)=	0	RES-N-GAS(10E7-CUFT)=	172
RES-WOOD(100-TONS)=	3	CI-ANTH(10-TONS)=	13	CI-BITUM(10-TONS)=	8	CI-DIS-OIL(10E4-GAL)=	845
CI-RID-OIL(10E4-GAL)=	1896	CI-N-GAS(10E7-CUFT)=	72	CI-WOOD(100-TONS)=		IND-ANTH(10-TONS)=	0
IND-BITUM(10-TONS)=	73	IND-COKE(10-TONS)=		IND-DIS-OIL(10E4-GAL)=	1388	IND-RD-OIL(10E4-GAL)=	1441
IND-N-GAS(10E7-CUFT)=	35	IND-WOOD(100-TONS)=		IND-PR-GAS(10E7-CUFT)=			
RES-OS-INC(10-TONS)=	125	IND-OS-INC(100-TONS)=	2	CI-OS-INC(100-TONS)=	15	PART-EMS(T/YR)=	1119.887
RES-OP-BRN(100-TONS)=	228	IND-OPN-BRN(100-TONS)=	20	CI-OPN-BRN(100-TONS)=	19	SO2-EMS(T/YR)=	2895.824
GAS-LT-VEH(1000-GAL)=	52096	GAS-HWY-VEH(1000-GAL)=	6100	GAS-OFF-HWY(1000-GAL)=	0	NOX-EMS(T/YR)=	6875.385
DIE-HV-VEH(1000-GAL)=	3366	DIE-OFF-HWY(10E4-GAL)=	102	DIE-RR-LOC(10E4-GAL)=	12	HC-EMS(T/YR)=	11140.904
COUNTY-POP(1000)=	142	DENSITY-CODE=	9	MIL-AIRCRAFT(100-LTO)=		CO-EMS(T/YR)=	52711.130
CIV-AIRCRAFT(10-LTO)=		COMM-AIRCRAFT(10-LTO)=		VES-BITUM(10-TONS)=	0	NO. 6-EMS(T/YR)=	0.000
VES-DIE-OL(10E4-GAL)=		VES-RID-OIL(10E4-GAL)=		VES-GAS(1000-GAL)=	619	NO. 7-EMS(T/YR)=	0.000
EVAP-SOLVENT(T/YR)=	710	EVAP-GAS(10E5-GAL)=	551	VEH-MI-LA-RD(10E4-MI)=		NO. 8-EMS(T/YR)=	0.000
VEH-MI-RURL(10E4-MI)=		VEH-MI-SUBAN(10E4-MI)=		VEH-MI-URBAN(10E4-MI)=		NO. 9-EMS(T/YR)=	0.000
DIRT-RD-TRV(1000-MI)=		DIRT-AIR-STRIPS(LTO)=		CONST--AND(1000-ACRE)=		NO. 10-EMS(T/YR)=	0.000
ROCK-H-ST(1000-TONS)=		FOREST-FIRE-AR(ACRES)=		FOR-FIRE-QU(TON/ACRE)=		NO. 11-EMS(T/YR)=	0.000
SLASH-BRN-ARE(ACRES)=		SLASH-BN-QU(TON/ACRE)=		ORCHARD-HEATERS(100)=		NO. 12-EMS(T/YR)=	0.000
ORCH-DA-FIRED(DA/YR)=		STRUCTURE-FIRES(#/YR)=		CRB-SIZE-BK(100-CUYD)=			
COAL-RED-BURN (#/YR)=		COMMENTS=					

Figure 2.1.1.c. Area Source Report

ALLOWED VERSUS COMPUTED EMISSIONS REPORT

General Description

For each pollutant, allowed emissions may be entered into NEDS for a given emission point. The calculated emissions refer to the emissions associated with each SCC of that point source. The "Allowed Versus Computed Emissions Report" was written to permit comparison of coded allowable emissions with total calculated emissions for the emission point.

Each plant requested is represented in the report by one or more pages of computer output. A heading containing the creation date and identifying geographic data is printed on the first page. In the pages that follow, the emission data for each plant are described with the points listed in ascending numerical order. For each point, the report prints the allowed emissions for each pollutant (zero values are printed as blanks), the calculated emissions of each pollutant for each SCC, and the totals of the calculated emissions for each pollutant.

Retrievals Available

The data may be retrieved for all or any combination of the five criteria pollutants. The options available for retrieval include any combination of the following keys compatible with the restrictions set forth in the NEDS Point Source Report:

a. Nation
b. State
c. County
d. Plant
e. Point

Sorts Available

The data may be sorted either by state or AQCR.

Sample Report

Figure 2.1.1.d is a sample from an "Allowed Versus Computed Emissions Report" retrieved for the State of Vermont and the Air Quality Control Region of Champlain Valley.

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ALLOWED VERSUS COMPUTED EMISSIONS

DATE: MAY 22, 1975 FILE CREATED ON: MARCH 12, 1975

STATE(47): VERMONT
AQCR(159): CHAMPLAIN VALLEY (N.Y.-VT)

PLANT NAME AND ADDRESS: GE-ARMAMENT SYS DEPT,LAKESIDE AVE,05401

POINT NUMBER: 01
SCC NAME
SCC1: EXTCOMB BOILER INDUSTRIAL DISTILLATE OIL <10MMBTU/HR YEAR OF RECORD 72

	PART	SOX	NOX	HC	CO
ALLOWED EMISSIONS:	8	25	0	0	0
COMPUTED EMISSIONS:					
SCC1 :	2	3	7	<1	<1
TOTAL:	2	3	7	<1	<1

REGULATIONS:

POINT NUMBER: 02
SCC NAME
SCC1 : EXTCOMB BOILER INDUSTRIAL NATURAL GAS 10-100MMBTU/HR YEAR OF RECORD 72

	PART	SOX	NOX	HC	CO
ALLOWED EMISSIONS:	9	0	0	0	0
COMPUTED EMISSIONS:					
SCC1 :	<1	<1	8	<1	<1
TOTAL:	<1	<1	8	<1	<1

REGULATIONS:

POINT NUMBER: 03
SCC NAME
SCC1 : INDUSTRIAL PROCES INPROCESS FUEL NATURAL GAS OTHER/NOT CLASIFD YEAR OF RECORD 72

Figure 2.1.1.d. Allowed Versus Computed Emissions Report

	PART	SOX	NOX	HC	CO
ALLOWED EMISSIONS:	2	0	0	0	0
COMPUTED EMISSIONS:					
SCC1 :					
TOTAL:					

REGULATIONS:

POINT NUMBER: 04
SCC NAME
SCC1 : POINT SC EVAP SURFACE COATING PAINT GENERAL YEAR OF RECORD 72

	PART	SOX	NOX	HC	CO
ALLOWED EMISSIONS:				0	
COMPUTED EMISSIONS:					
SCC1 :				11	
TOTAL:				11	

REGULATIONS:

Figure 2.1.1.d (continued). Allowed Versus Computed Emissions Report

POINT SOURCE CARDS

General Description

The "Point Source Cards" report selects data from NEDS and creates punched cards or a magnetic tape in the NEDS point source input format.

Retrievals Available

Cards may be retrieved for any one or all of the criteria pollutants subject to the restrictions set forth in the NEDS Point Source Report for the following key items:

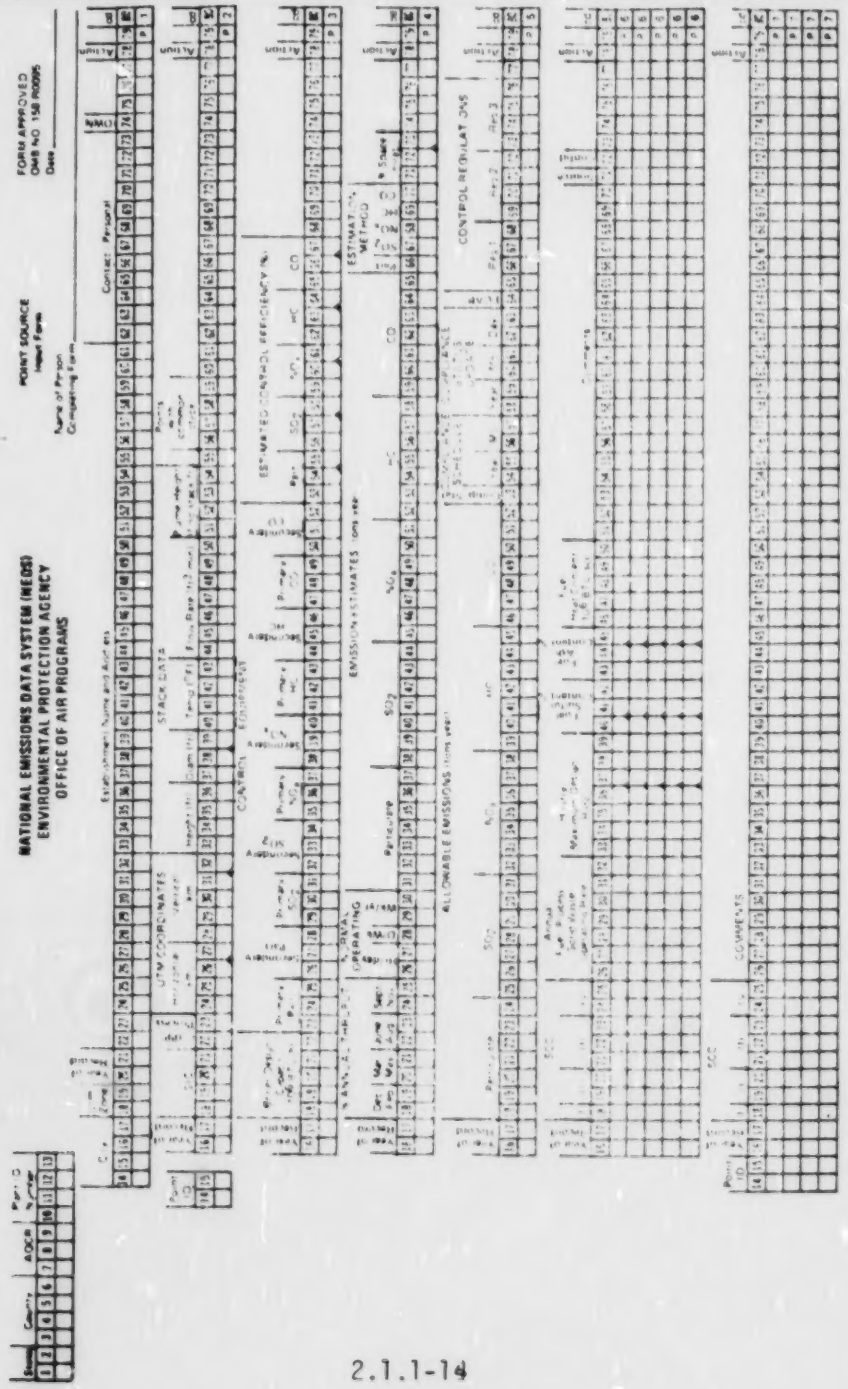
a. State
b. County
c. Plant
d. Point
e. SCC (any one of the four parts or combination thereof)
f. Ownership
g. SIC
h. Estimation method
i. AQCR
j. Point emitting more than the specified minimum of a certain pollutant

Sorts Available

No sorts are available for the "Point Source Cards."

Sample Report

Figure 2.1.1.e gives the format of NEDS point source cards.



2.1.1.e. Point Source Cards Format

AREA SOURCE CARDS

The "Area Source Cards" report is similar to the "Point Source Cards" report. This report outputs selected data from NEDS onto computer cards or onto magnetic tape in the NEDS area source input format. The nation, a state, a county, or an AQCR may be retrieval keys. Figure 2.1.1.f gives the format for NEDS area source cards.

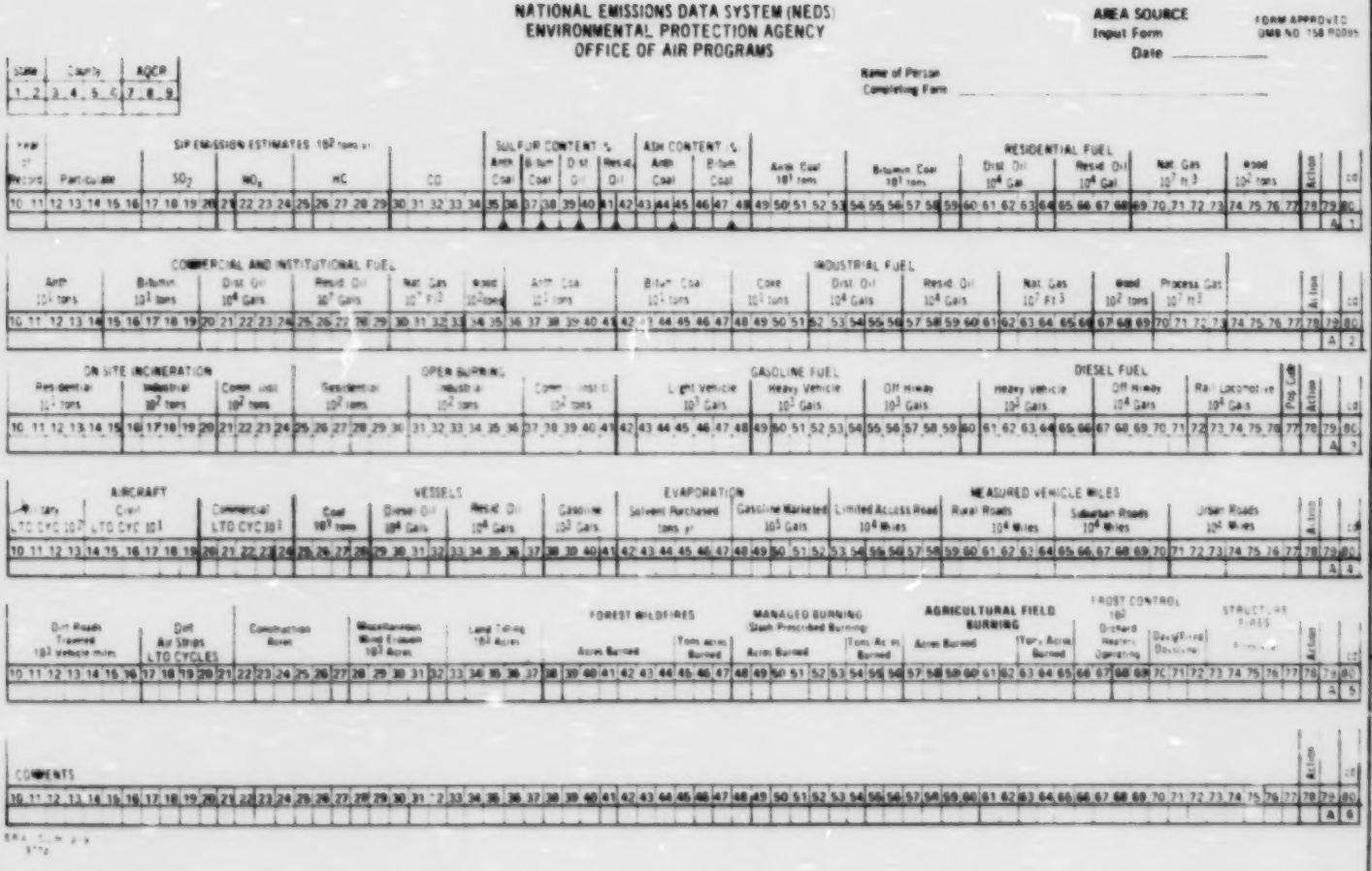


Figure 2.1.1.f. Area Source Cards Format

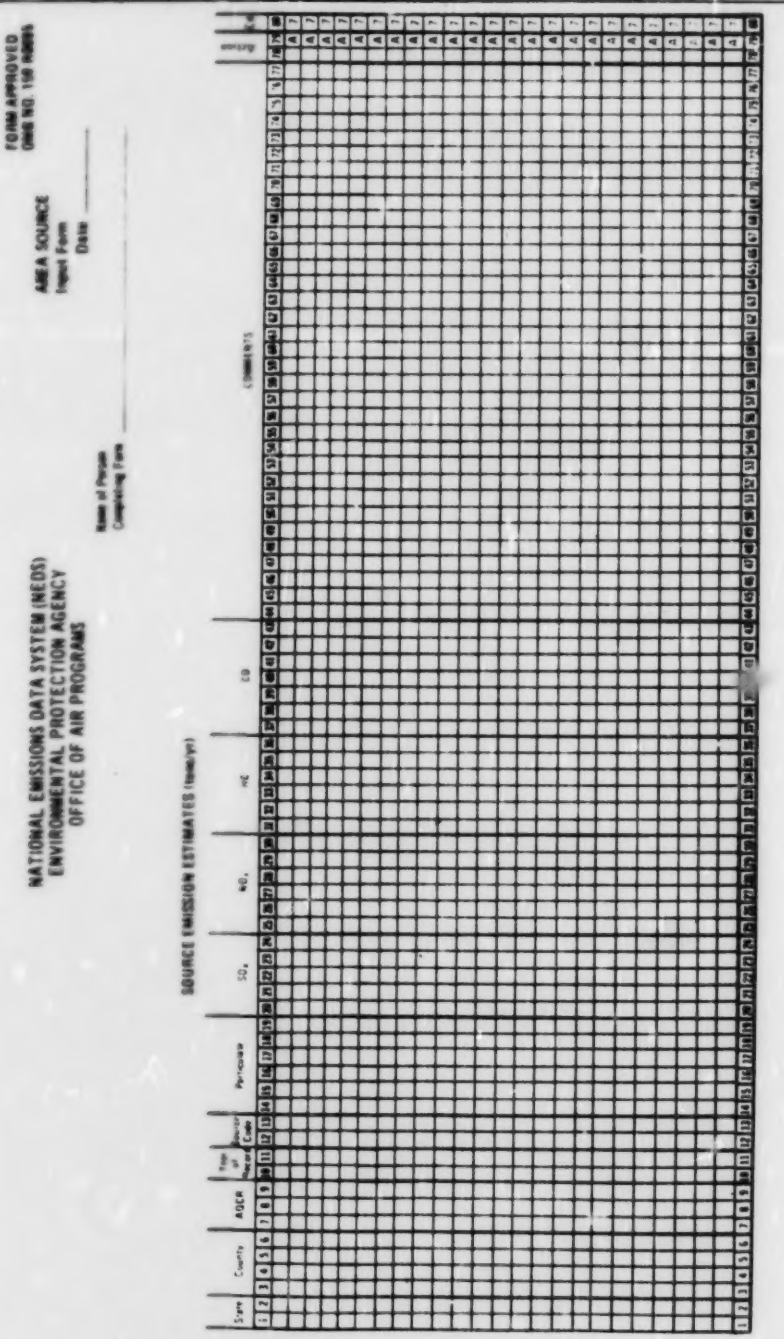


Figure 2.1.1.f (continued). Area Source Cards Format

PLANT EMISSIONS REPORT (TONS/YR)

UPDATE DATE FRIDAY JANUARY 10, 1975

STATE	COUNTY	PLANT	AQCR	PLANT NAME AND ADDRESS		PART ****	SO2 ***	MOX ***	HC **	CO **
22	2121	0061	120	NEW ENGLAND POWER-BRAYTON PT, SOMERSET	PROC	0	0	0	0	0
					COMB	1050	63401	21201	404	606
					TOT	1050	63401	21201	404	606
41	0320	0042	120	PROVIDENCE INCINERATOR, PROVIDENCE	PROC	0	0	0	0	0
					COMB	0	0	0	0	0
					TOT	900	75	60	45	1050
22	2121	0054	120	CANAL ELECTRIC, SANDWICH	PROC	0	0	0	0	0
					COMB	630	30998	8531	163	244
					TOT	630	30998	8531	163	244
22	2121	0060	120	MONTAUP ELECTRIC CO, SOMERSET	PROC	0	0	0	0	0
					COMB	577	24129	7576	144	216
					TOT	577	24129	7576	144	216

Figure 2.1.2.d. Plant Emission Report

2.1.2.5 SCC EMISSIONS REPORT

2.1.2.5.1 GENERAL DESCRIPTION

For each state, the "SCC Emission Report" prints one line listing the total emissions in tons per year for each of the five criteria pollutants by county number and SCC category. The update date and the number of sources included in each SCC category in each county are also included.

2.1.2.5.2 RETRIEVALS AVAILABLE

The "SCC Emission Report" may be retrieved only for the nation.

2.1.2.5.3 SAMPLE REPORT

A sample "SCC Emission Report" for the first few counties of Alabama is presented in Figure 2.1.2.e.

DATE: 05-07-75 EMISSION/AIR QUALITY REPORT FOR PAGE 1
AQCR(120):METROPOLITAN PROVIDENCE

NEDS DATA OF CREATION : WEDNESDAY MARCH 12, 1975
AQCR POPULATION (1970 CENSUS): 1,645,380
LAND AREA OF AQCR: 989 SQ-MILES.

	PARTICULATE	SULFUR OXIDES	NITROGEN OXIDES	HYDROCARBONS	CARBON MONOXIDE	OZONE OR TOTAL OX
PRIORITY OF AQCR	1	1	1		1	1
EMISSIONS (TONS/YEAR)						
POINT SOURCES	9,650	161,171	56,241	5,016	17,281	
AREA SOURCES	15,284	32,595	78,967	143,657	613,334	
TOTAL SOURCES	24,934	193,766	135,208	148,673	630,615	

AIR QUALITY	TOTAL SUSP PART UG/M**3					SULFUR DIOXIDE UG/M**3					NITROGEN DIOXIDE UG/M**3					TOTAL HYDROCARBONS UG/M**3					CARBON MONOXIDE MG/M**3					OZONE OR TOTAL OX UG/M**3				
YEAR	NO STA	MAX VALUE	I N T	MAX GEP MEAN	I N T	NO STA	MAX VALUE	I N T	MAX ARITH MEAN	I N T	NO STA	MAX VALUE	I N T	MAX ARITH MEAN	I N T	NO STA	MAX VALUE	I N T	MAX ARITH MEAN	I N T	NO STA	MAX VALUE	I N T	MAX ARITH MEAN	I N T	NO STA	MAX VALUE	I N T	MAX ARITH MEAN	I N T
1957	1	253	7	112	7	0	0		0		0	0		0		0	0		0		0	0		0		0	0		0	
1958	3	301	7	124	7	0	0		0		0	0		0		0	0		0		0	0		0		0	0		0	
1959	6	284	7	89	7	0	0		0		0	0		0		0	0		0		0	0		0		0	0		0	

Figure 2.1.2.g. Emission/Air Quality Report

EMISSIONS BY SCC REPORT

General Description

This report summarizes, by SCC, the calculated emissions for the five major pollutants (particulate, nitrogen oxides, sulfur oxides, hydrocarbons and carbon monoxide). All data selected are summarized by SCC and total emissions are provided for the four parts of each SCC. The report also gives the number of records for each SCC, for both complete SCC's and component parts, and total process throughput for each complete SCC (Parts I + II + III + IV).

Retrievals Available

Generally, only reports by nation, state, AQCR or county will be meaningful. Should the need exist, any of the following retrieval options are available:

a. State
b. AQCR
c. County
d. Plant
e. Point
f. Ownership Code
g. SIC
h. Emissions Estimation Method

i. SCC (I, I+II, I+II+III, I+II+III+IV)
j. Sources emitting more than x tons of any one pollutant
k. Any combinations of the above

These retrievals are subject to the restrictions identified in 2.1.1 for the point source report.

Sorts Available

No sorts are applicable to this report.

Sample Report

A sample page of the Emissions by SCC Report is presented in Figure 2.1.2-h. A report request will generate multiple pages showing data for all SCC's in the specified area.

Figure 2.1.2.h. Emissions by SCC Report

POTENTIAL EMISSIONS REPORT

General Description

The potential emissions report produces a report and/or files of uncontrolled emissions, maximum controlled emissions, and maximum uncontrolled emissions. Either a full or summary report may be specified with the summarization of calculations at the level specified by the user. Summarization may be specified at any one of the following levels:

a. National
b. State
c. County (State/County)
d. AQCR
e. State/AQCR
f. Plant (State/County/Plant)

Emission values are computed as follows:

1) Uncontrolled emissions = CALCULATED EMISSIONS VALUE * (100/(100 - CONTROL EFFICIENCY)),

2) Maximum Controlled Emissions = CALCULATED EMISSIONS VALUE * RATIO
WHERE RATIO = (MAXIMUM DESIGN RATE * HOURS-DAY * DAYS-WEEK * WEEKS-YEAR)/OPERATING RATE, and

3) Maximum Uncontrolled Emissions = UNCONTROLLED EMISSIONS * RATIO (See RATIO formula above).

Retrievals Available

The following retrieval options are available:

a. State
b. AQCR
c. County
d. Plant
e. Point
f. Ownership Code
g. SIC
h. Emissions Estimation Method
i. SCC (I, I+II, I+II+III, I+II+III+IV)
j. Sources emitting more than x tons of any one pollutant
k. Any combinations of the above.

There are only certain combinations of retrieval categories listed above that are valid. For example, the county code numbers are unique within each state but not across state boundaries. Thus, although no two counties in Arizona have the same county code number, 0040 is the county code number both for Apache County in Arizona and Arkansas County in Arkansas. As a result, retrieval by county is only meaningful when combined with retrieval by state.

In the same manner retrieval by plant requires specification of county and state identifiers; retrieval by point requires specification

of plant, county, and state identifiers.

It should be noted that the same type of restriction applies to retrieval by SCC parts. Retrieval by SCC part IV is dependent on retrieval by SCC part III, retrieval by part III on retrievals by part II, etc.

Sorts Available

Subject to the same restrictions set forth for "Retrievals Available," the selected data can be sorted in ascending (a) or descending (d) sequence for any of the following data values:

a. State (a)
b. AQCR (a)
c. County (a)
d. Plant Number (a)
e. Point Number (a)
f. Source Classification Code (a)
g. Ownership (Federal, local government, utility, or all) (a)
h. Standard Industrial Classification (SIC) Code (a)
i. Emissions Estimation Method (a)
j. Plant Names in Alphabetical Order (a)
k. Amount of emissions for any one of the five criteria pollutants (d)
l. Year of Record (a)

m. Control Equipment (a)
n. Control Efficiency (d)
o. Fuel Sulfur Content (d)
p. Fuel Ash Content (d)
q. Major City Code (a)
r. UTM Coordinates (d)
s. Operating Rate (d)
t. Confidentiality (a)

The sort selected should coincide with the level of summarization requested. That is, if summarization by plant is requested, sorting by at least State/County/Plant, and preferably by State/County/Plant/Point/SCC should be performed. It is recommended that, in general, only sorts by items a-f and k be requested. Sorting by items g-j and l-t is possible but since those items do not appear on the report output, the report may appear confusing or in random order if this is done.

Example Output

A sample page of the Potential Emissions Report is presented in Figure 2.1.2.i.

TUESDAY APRIL 12, 1977 NATIONAL EMISSION DATA SYSTEM

	CALCULATED EMISSIONS (TONS/YR)	UNCONTROLLED EMISSIONS (TONS/YR)	MAXIMUM CONTROLLED EMISSIONS (TONS/YR)	MAXIMUM UNCONTROLLED EMISSIONS (TONS/YR)	ST CNTY PLNT PT SCC-CODE
PART	9.621	962.500	9.567	956.721	0[illegible] 0060 0014 01 30500201
SO2	0.000	0.000	0.000	0.000	
NOX	0.000	0.000	0.000	0.000	
HC	0.000	0.000	0.000	0.000	
CO	0.000	0.000	0.000	0.000	
PART	0.000	0.000	0.000	0.000	0A 0060 0014 01 39000501
SO2	0.000	0.000	0.000	0.000	
NOX	0.000	0.000	0.000	0.000	
HC	0.000	0.000	0.000	0.000	
CO	0.000	0.000	0.000	0.000	
PART	0.655	0.655	2.547	2.547	0[illegible] 0060 0015 01 10200403
SO2	0.000	0.000	0.000	0.000	
NOX	1.710	1.710	6.651	6.651	
HC	0.085	0.085	0.330	0.330	
CO	0.114	0.114	0.443	0.443	

TOTALS FOR STATE - 0[illegible]

PART	4[illegible].7[illegible]	22575.844	640.147	50837.1[illegible]
SO2	2812.696	2812.696	4428.072	4428.072
NOX	1152.969	1152.969	1e39.37[illegible]	1e39.372
HC	783.200	783.200	1502.341	1502.341
CO	47.570	48.920	83.03[illegible]	86.391

GRAND TOTALS

PART	4[illegible].7[illegible]	22575.844	640.147	50837.1[illegible]
SO2	2812.696	2812.696	4428.072	4428.072
NOX	1152.969	1152.969	1e39.37[illegible]	1e39.372
HC	783.200	783.200	1502.341	1502.341
CO	47.570	48.920	83.03[illegible]	86.391

Figure 2.1.2.i. Potential Emissions Report

RAW DATA LESS THAN 24 HOURS

General Description

This report lists the hourly observations of pollutant concentrations in 24 columns, 1 line per day, 1 month per page. The report may also be used, with suitable modifications in format, for data recorded for 2-, 3-, 4-, 6-, 8-, and 12-hour intervals. The heading of the report contains the name of the pollutant; the pollutant/method code; the units used; the method of collection and analysis; the name of the state; the area; the site name and address; the complete site, agency, and project code; the month and year; and an identifier giving the averaging period of the observational data (for example, "1-hour data listing"). To the left of the 24-column body of the report is a column giving the days of the month; to the right are columns for the daily mean values and the number of observations made each day. Below the row for the last day of the month are three other rows, one for the average values for each hour, one for the numbers of observations made at each hour throughout the month, and one for the maximum value occurring at each hour. In the lower righthand corner are the average value for the entire month, the total number of observations for the month, and the maximum value that occurred in the month. The report is also capable of creating 3-, 8-, 12-, and 24-hour running averages from 1-hour data.

Retrievals Available

The SAROAD System employs a standard selection format for all retrievals for reports using the "SAROAD Standard Format Selection" procedure. The 1-Hour Data Listing may be retrieved by the following selection keys:

a. Nationwide
b. State
c. State/Area
d. State/Area/Site
e. AQCR
f. Year
g. Year/Month
h. Pollutant
i. Pollutant/Method
j. Agency/Project
k. Any combination of these keys

The multiple items listed above indicate that the retrieval may not be effected for the "Area" key without also specifying the "State" key, and so on.

Sorts Available

There are no optional sorts available. Data are printed in ascending order by site ID and within site by pollutant.

Sample Report

Figure 2.3.1.a shows a sample of this report for ozone measurements at a site in Honolulu, Hawaii.

NATIONAL AEROMETRIC DATA BANK
ENVIRONMENTAL PROTECTION AGENCY

OZONE
44201|1|
CONCENTRATION IN PARTS PER MILLION
INSTRUMENTAL CHEMILUMINESCENCE

HAWAII
HONOLULU
STATE HEALTH DEPT BLDG 1250 PU
(120120001F01)

JAN 1973

1-HOUR DATA LISTING

DAY	AM 12	1	2	3	4	5	6	7	8	9	10	11	PM 12	1	2	3	4	5	6	7	8	9	10	11	DAILY MEAN	NO.
01																										
02																										
03																										
04																										
05	.000	.000	.000	.000	.000	.000	.000	.000	.000	.003	.008	.005	.008	.008	.008	.005	.005	.005	.000	.000	.000	.000	.003	.000	.000	16
06	.000	.010	.013	.015	.018	.018	.015	.010	.003	.000	.003	.000	.000	.003	.008	.005	.003	.005	.000	.005	.013	.015	.015	.013	.002	24
07	.003	.010	.018	.020	.020	.023	.018	.018	.015	.015	.013	.013	.010	.010	.008	.008	.008	.005	.003	.003	.003	.000	.000	.000	.008	24
08	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.003	.008	.011	.008	.008	.003	.003	.003	.003	.000	.000	.000	.000	.000	.010	24
09	.000	.000	.003	.003	.003	.000	.000	.000	.000	.008	.003	.005	.005	.005	.008	.008	.005	.005	.000	.000	.000	.000	.000	.000	.002	23
10	.000	.000	.000	.003	.000	.000	.000	.000	.000	.006	.003	.008	.015	.013	.008	.008	.008	.005	.003	.003	.000	.000	.000	.000	.003	24
11																										
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29																										
30																										
31																										
AVG.	.000	.010	.010	.010	.012	.011	.009	.006	.009	.011	.013	.015	.015	.013	.011	.010	.009	.007	.007	.007	.008	.008	.009	.009	.009	658
NO.	27	27	27	27	27	27	27	27	27	27	27	27	27	28	28	28	28	28	28	28	28	28	28	28	28	
MAX.	.028	.028	.030	.028	.030	.030	.025	.023	.020	.023	.023	.023	.025	.023	.016	.020	.020	.020	.018	.020	.025	.025	.028	.028	.030	

Figure 2.3.1.a. Raw Data Less Than 24 Hours Report

RAW DATA LISTING GREATER THAN OR EQUAL TO 24 HOURS

General Description

This report lists raw data observations for intervals of 24 hours, 1 week, 1 month, 3 months, 1 year, or composite data. The data report format varies with the sampling interval, but all intervals have the following items in common: (1) sampling interval in the heading, (2) a complete site description following the heading, and (3) the pollutant name, sample collection and analysis names, data reporting units, and the minimum detectable value for the sampling method. The report begins a new page with a change in interval, site, or pollutant.

For 24-hour data, 1 year of data appears per page in 13 columns, the first containing the days of the month and the next twelve one column for each month of the year. For each month and the year, the number of observations, the maximum value, and the mean are listed. A monthly mean is computed only if at least two observations are present, and the yearly mean is calculated only if the yearly summary criterion is met. The geometric mean is printed for particulates, and the arithmetic mean is printed for all other pollutants.

For the other reporting intervals, multiple years can be listed per page. For these intervals, the items listed include: the year; the month, week, or sampling period, which is dependent on the interval; the data value; and for composite data, the number of samples in the composite.

Retrievals Available

This report may be retrieved by the following selection criteria: nation, state, area, site, agency, project, pollutant, method, interval, begin date, end date, AQCR, and county.

Most combinations of the above selection criteria are valid, but the following combinations are invalid: (1) area or county without state, (2) site without state/area, (3) project without agency, and (4) method without pollutant.

The difference between a state/area and state/county retrieval is important--a state/area selection will give the sites which are in that area (city) while a state/county selection will give all state/area combinations located in that county.

Sorts Available

No optional sorts are available. The standard sort option for the selected data is by interval and by site ID.

Sample Reports

Figure 2.3.1.b shows a report retrieval for 24-hour data and Figure 2.3.1.c shows a report for quarterly composite.

Figure 2.3.1.b. Raw data listing, 24-hour report.

RUN DATE: 04/07/77 — NATIONAL AEROMETRIC DATA BANK — PAGE: 28

RAW DATA LISTING COMPOSITE

SITE ID: 01156001401 — LOCATION: HUNTSVILLE
AGENCY/PROJECTS: AEI — COUNTY (22601): MADISON CO
AGENCY TYPE: EPA/ATMOS. SURV. — SITE ADDR: RDOF HEALTH BLDG JOH CUSIS AVENUE
CITY POPULATIONS: 137,000 — STATION TYPE (1): CENTER CITY - COMMERCIAL
AQCR POPULATIONS: 911,431 — AQCR (067): TENNESSEE RIVER VALLEY-CUMBERLAND MOUNTAINS
EPA-REGION: 4 — SMSA (3480): HUNTSVILLE, ALABAMA
SUPPORTING AGENCY: DEPARTMENT OF PUBLIC HEALTH
COMMENTS:

LATITUDE: 34 D. 43 M. 30 S. N
LONGITUDE: 086 D. 34 M. 58 S. W
UTM ZONE: 16
UTM NORTHINGS: 3843591
UTM EASTINGS: 518135
ELEVATION ABOVE GROUND: 020 FT.
ELEVATION ABOVE MSL: 1525 FT.
DIFF. GMT: WEST 06 HOURS

POLLUTANT: IRON — UNITS: UG/CU METER (25 C) — PICKLN REFERTABLE: E.J
COLLECTION & ANALYSIS METHOD: HI-VOL EMISSION SPECTRA FLOW RATE: 65 CFM

QUARTERLY COMPOSITE OF 24-HOUR SAMPLES

YEAR	SMP PERIOD	VALUE	NO SMP
70	1	0.7	7
	2	0.6	6
	3	0.8	7
	4	0.5	6
71	1	0.8	7
	2	0.7	6
	3	0.5	5
	4	0.7	6
72	1	0.4	
	2	0.8	
	3	0.5	
	4	0.2	

Figure 2.3.1.c. Raw data listing, composite report.

STANDARD REPORTS

General Description

This series of 12 reports shows, for each pollutant-site combination within the geographical region specified, the number of occasions within the period of time specified when the National Ambient Air Quality Standards (NAAQS) were violated. For those pollutants having both primary and secondary standards, the numbers of violations are shown separately for each type of standard. The standard format site description information appears at the top of the sheet with the designation of pollutant-interval combination above it, along with the State Code and name and the valid date of the data. Below the site description data, the main body of the report consists of 28 columns of data (for the monthly reports) or 13 columns of data (for the yearly reports) containing the individual hourly or daily observations for the pollutant in question. Every time that the appropriate standard was exceeded, a symbol (* or +) is placed beside the observation so as to identify the time and date of the violation. For the monthly reports, the number of observations and the mean value are tabulated for each day at the right-hand side of the paper; and the number of observations, maximum value, and arithmetic mean are listed for each hour of the day at the bottom of each column. For yearly reports the same data are provided, but on a monthly basis. Below these figures are given the total number of observations for the month (or year), the percentage of possible observations, the numbers of times that the respective standards were exceeded, the arithmetic or geometric mean and standard deviation, as appropriate, with accompanying statements as to whether the primary and secondary standards were met or exceeded (for those pollutants having standards based on those parameters), and, along the bottom of the page, the identifications by name of the methods of collection and analysis, together with a statement defining the time used (whether standard or daylight saving).

The following reports are available:

a. Particulate (total suspended particulates)
b. Sulfur dioxide, daily values
c. Sulfur dioxide, daily averages of hourly values
d. Sulfur dioxide, 3-hour averages
e. Carbon monoxide, hourly averages
f. Carbon monoxide, 8-hour averages
g. Total oxidants
h. Ozone
i. Nitrogen dioxide, daily values
j. Nitrogen dioxide, hourly values
k. Total hydrocarbons
l. Nonmethane hydrocarbons

Retrievals Available

Once the basic selections of pollutant type and averaging interval have been made, the standards reports may be retrieved on a nationwide, EPA region, state, or AQCR basis for specified periods of time.

Sorts Available

There are no optional sorts available.

Sample Report

Figure 2.3.1.d shows a sample yearly report for particulate sampling followed by a sample monthly report for 3-hour running averages for sulfur dioxide.

AS OF JUNE 02, 1973

PARTICULATE

NATIONAL AEROMETRIC DATA BANK STANDARDS REPORT FROM JAN 1970 TO DEC 1970

30301
ILLINOIS

SITECODE: 141220006
AGENCY/PROJECT: H01
AGENCY TYPE: CITY
CITY POPULATION: 3,369,597
AQCS POPULATION: 7,762,473
EPA-REGION: 5
SUPPORTING AGENCY: DEPARTMENT OF ENVIRONMENTAL CONTROL CITY OF CHICAGO
COMMENTS:

LOCATION: CHICAGO
COUNTY(1540): COOK
SITE AQCR: AUSTIN HIGH SCHOOL 231 N PINE ST
STATION TYPE (12): CENTER CITY - RESIDENTIAL
AQCR (C67): METROPOLITAN CHICAGO
SMSA (1600): CHICAGO, ILLINOIS

LATITUDE: N41 D. 53 M. 06 S.
LONGITUDE: W067 D. 45 M. 40 S.
UTM ZONE: 16
UTM NORTHING: 4,637.0 KM.
UTM EASTING: 436.8 KM.
ELEVATION ABOVE GROUND: 61 FT.
ELEVATION ABOVE MSL: 676 FT.
TIME ZONE: WEST 06 HOURS

		JAN 1970	FEB 1970	MAR 1970	APR 1970	MAY 1970	JUN 1970	JUL 1970	AUG 1970	SEP 1970	OCT 1970	NOV 1970	DEC 1970
	1	75 T	S	S	100 W	82 F	M	W	S	147 T	167+T	S	T
	2	F	M	M	T	S	T	T	111 S	W	F	78 M	W
	3	S	175+T	T	F	S	92 W	96 F	M	T	S	T	T
D	4	142 S	W	W	107+S	M	T	S	T	148 F	S	W	F
	5	M	T	140 T	S	T	F	S	109 W	S	115 M	T	S
A	6	T	F	F	M	W	98 S	M	T	S	T	121 F	S
	7	214+W	S	S	144+T	132 T	S	T	F	M	W	S	M
Y	8	T	S	110 S	W	F	M	W	101 S	T	T	S	409+T
	9	F	M	M	T	S	80 T	85 T	S	W	122 F	M	W
	10	157+S	T	T	203+F	83 S	W	F	M	261+T	S	117 T	T
O	11	S	W	101 W	S	M	T	S	107 T	F	S	W	F
	12	M	224+T	T	S	T	69 F	58 S	W	S	M	T	177+S
F	13	362+T	F	F	M	91 W	S	M	T	101 S	65 T	F	S
	14	W	S	142 S	T	T	S	T	156+F	M	W	81 S	M
	15	T	96 S	S	W	F	M	150 W	S	T	T	S	T
	16	381 F	M	M	102 T	80 S	T	T	S	139 W	F	M	192+W
M	17	S	T	199+T	F	S	W	F	M	T	148 S	T	T
	18	S	185+W	W	S	M	T	109 S	T	F	S	138 W	F
O	19	M	T	T	8 S	115+T	F	S	W	107 S	M	T	S
	20	T	F	155+F	M	W	S	M	84 T	S	T	F	253+S
N	21	W	219+S	S	T	T	S	75 T	F	M	150 W	S	M
	22	T	S	S	78 W	79 F	M	W	S	59 T	T	58 S	T
T	23	F	M	M	T	S	T	T	59 S	W	F	M	W
	24	S	T	T	F	S	132 W	86 F	M	T	S	T	226+T
H	25	97 S	W	W	103 S	M	T	S	T	67 F	54 S	W	F
	26	M	T	200+T	S	T	F	S	138 W	S	M	T	S
	27	T	194+F	F	M	W	113 S	M	T	S	T	F	S
	28	130 W	S	S	179+T	91 T	S	T	F	M	W	S	M
	29	T		50 S	W	F	M	W	74 S	T	137 T	S	T
	30	F		M	T	S	130 T	113 T	S	W	F	209+M	W
	31	117 S		T		S		F	M		S		T
NUMBER		9	0	8	9	8	7	8	9	8	8	7	5
MAXIMUM		335	224	284	203	169	132	150	156	261	167	200	409
GEO MEAN		149	172	129	127	91	99	93	100	116	112	105	240

TOTAL SAMPLES = 88
PERCENT OF POSSIBLE OBSERVATIONS = 25.2

GEOMETRIC MEAN = 171
GEOMETRIC STANDARD DEVIATION = 100

COLLECTION METHOD: HI-VOL

1 STARRED (*) ITEMS EXCEEDED THE PRIMARY STANDARD OF 260 MICROGRAMS PER CUBIC METER
25 PLUSSED (+) ITEMS EXCEEDED THE SECONDARY STANDARD OF 150 MICROGRAMS PER CUBIC METER

PRIMARY STANDARD OF 75 MICROGRAMS PER CUBIC METER WAS EXCEEDED
SECONDARY STANDARD OF 60 MICROGRAMS PER CUBIC METER WAS EXCEEDED

ANALYSIS METHOD: GRAVIMETRIC

ALL TIMES ARE STANDARD TIME

Figure 2.3.1.d. Standards Report

AS OF JUNE 02, 1973

SULFUR DIOXIDE
3 HOUR AVERAGE
NATIONAL AEROMETRIC DATA BANK STANDARDS REPORT FOR MARCH, 1969

30301
ILLINOIS

SITECODE: 141220006
AGENCY/PROJECT: H01
AGENCY TYPE: CITY
CITY POPULATION: 3,369,597
AQCS POPULATION: 7,762,473
EPA-REGION: 5
SUPPORTING AGENCY: DEPARTMENT OF ENVIRONMENTAL CONTROL CITY OF CHICAGO
COMMENTS: TAMS PARA MONITORED: SO2, WD, WS, CON, NO2, HC
CASN PARA MONITORED SO2 (WEST-GAEKE) TOT SUS PART (HI-VOL)

LOCATION: CHICAGO
COUNTY(1540): COOK
SITE AQCR: AUSTIN HIGH SCHOOL 231 N PINE ST
STATION TYPE (12): CENTER CITY - RESIDENTIAL
AQCR (067): METROPOLITAN CHICAGO
SMSA (1600): CHICAGO, ILLINOIS

LATITUDE: N41 D. 53 M. 06 S.
LONGITUDE: W067 D. 45 M. 40 S.
UTM ZONE: 16
UTM NORTHING: 4,637.0 KM.
UTM EASTING: 436.8 KM.
ELEVATION ABOVE GROUND: 61 FT.
ELEVATION ABOVE MSL: 676 FT.
TIME ZONE: WEST 06 HOURS

	MONT		1	2	3	4	5	6	7	8	9	10	11	NOON	1	2	3	4	5	6	7	8	9	10	11	#	MEAN
1	S	13	13	17	28	65	94	98	79	59	57	90	162	203	238	273	384	458	478	496	531	581	507	462	249	24	234
2	S	160	155	199	247	365	465	555	537	419	303	223	212	186	196	229	253	275	297	293	312	369	365	367	236	24	309
3	M	239	221	207	330	483	631	635	600	476	376	238	231	240	325	365	362	314	258	245	277	301	284	259	167	24	339
4	T	108	111	96	94	144	253	371	382	338	288	229	177	144	103	61	44	33	26	48	55	55	33	26	400	24	155
5	W	747	784	867	1092	1260	1327	+1204	1087	877	650	515	491	469	476	452	500	535	605	624	668	642	579	527	452	24	723
6	T	465	458	515	574	694	777	753	544	286	96	46	24	17	50	133	238	262	295	323	384	391	325	298	167	24	338
7	F	124	175	275	415	539	714	806	814	559	325	138	114	98	96	96	120	273	489	705	725	642	524	475	445	24	401
8	S	458	448	395	378	362	543	475	364	92	24	13	13	13	13	52	124	214	251	247	170	144	127	164	111	24	215
9	S	69	63	55	50	247	417	565	544	511	469	356	225	105	35	22	17	13	98	288	533	646	622	560	501	24	290
10	M	521	535	603	679	834	937	926	821	730	573	370	347	312	332	393	424	450	417	400	362	343	341	344	344	24	510
11	T	341	360	354	406	509	666	729	701	605	500	450	489	541	552	515	478	463	467	520	609	668	703	691	740	24	544
12	W	681	718	742	987	1253	1421	+1240	893	585	539	485	406	258	177	153	135	142	138	124	138	179	288	331	851	24	514
13	T	1264	1314	+1419	+1631	+1845	+2046	+1858	+1446	+1016	756	651	531	526	522	500	493	517	533	528	581	672	633	589	337	24	929
14	F	293	290	299	339	517	605	592	528	476	465	467	474	458	454	485	552	548	561	535	572	668	725	806	612	24	914
15	S	553	559	622	751	943	1109	1127	954	696	485	498	570	596	515	456	456	565	699	873	961	928	782	665	648	24	722
16	S	626	592	535	729	1046	1314	+1238	1009	742	596	500	491	480	439	367	321	282	269	273	314	341	338	318	327	24	389
17	M	327	314	314	410	561	664	710	672	592	493	448	509	533	533	465	437	391	362	323	308	309	336	350	360	24	443
18	T	350	347	373	557	982	1380	+1509	+1236	851	579	441	458	437	498	465	461	391	380	373	371	378	389	406	318	24	587
19	W	168	145	121	196	325	434	443	354	258	214	205	201	168	138	114	85	61	31	17	13	13	13	13	13	24	156
20	T	65	135	247	273	286	260	299	273	251	210	199	183	175	190	245	380	369	384	386	376	386	349	357	285	24	271
21	F	275	293	297	371	502	614	622	563	472	432	400	386	295	179	103	68	44	35	31	109	288	579	737	789	24	352
22	S	704	718	790	858	1013	1118	1116	891	598	371	273	260	242	221	183	199	242	290	317	288	249	210	203	226	24	487
23	S	278	253	227	231	345	448	452	376	286	260	236	240	227	218	214	203	153	98	46	33	22	28	29	29	24	231
24	M														13	13	13	22	35	48	55	48	35	23	20	11	29
25	T	26	26	26	26	26	26	26	35	44	52	57	68	96	124	146	159	203	264	306	371	410	441	422	319	24	154
26	W	203	194	170	203	275	393	493	522	559	618	646	589	478	426	406	417	428	476	611	795	948	956	940	786	24	522
27	T	701	727	808	1004	1297	1517	+1465	+1096	742	657	681	696	694	913	939	810	574	537	598	620	550	454	370	350	24	783
28	F	275	284	308	426	539	620	570	405	378	312	247	242	277	332	430	467	576	622	675	568	496	474	531	485	24	440
29	S	354	347	290	338	397	507	559	572	526	483	472	382	255	170	251	365	404	413	402	369	393	395	452	403	24	398
30	S	380	345	336	365	430	450	485	480	502	465	450	391	365	356	365	371	345	356	362	391	461	487	534	442	24	413
31	M	403	382	369	415	565	688	900	867	801	541	426	365	367	358	365	360	386	406	421	421	430	417	426	334	24	476
#		30	30	30	30	30	30	30	30	30	30	30	30	30	31	31	31	31	31	31	31	31	31	31	31		
MAX		1264	1314	1419	1631	1845	1446	1858	1446	1016	756	681	696	694	913	939	810	576	699	873	961	948	956	940	851		
MEAN		373	377	396	482	622	748	763	657	511	406	348	331	309	297	299	311	320	341	369	396	418	411	409	379		

TOTAL SAMPLES = 731
PERCENT OF POSSIBLE OBSERVATIONS = 98.2

STARRED (*) ITEMS EXCEEDED THE PRIMARY STANDARD OF 0,000 MICROGRAMS PER CUBIC METER
14 PLUSSED (+) ITEMS EXCEEDED THE SECONDARY STANDARD OF 1,300 MICROGRAMS PER CUBIC METER

ARITHMETIC MEAN = 427
ARITHMETIC STANDARD DEVIATION = 296

PRIMARY STANDARD OF 000 MICROGRAMS PER CUBIC METER WAS MET
SECONDARY STANDARD OF 000 MICROGRAMS PER CUBIC METER WAS MET

2.3.1-10

Figure 2.3.1.d (continued). Standards Report

SITE DESCRIPTION INVENTORY

General Description

This report lists, in a standard site description format, information concerning the environment and operating characteristics of the given sampling site or sites. The site descriptive information is arranged in three blocks across the page, each block containing six to eight lines of information. The various codes as set forth in Volume V, AEROS Manual of Codes, are provided for the various station parameters and each is defined by name. These codes include those for the state, area, agency/project, EPA Region, county, station type, AQCR, SMSA, and UTM zone. The actual numerical values are also provided for the city and AQCR populations, as well as for various geographic parameters including the latitude and longitude of the sampling site, its UTM grid coordinates, the elevation of the sampling probe above the ground and above MSL, and the time differential between local standard time and GMT. In addition, the name of the location is given, along with the name of the supporting agency and any comments that may be appropriate.

Retrievals Available

The site description data can be retrieved on a state, AQCR, or nation-wide basis.

Sorts Available

The report is sorted by Site Code number within states. No other sorts are available as options for the user.

Sample Report

Figure 2.3.1.e shows a "Site Description Inventory" for two sites in the State of Rhode Island.

NATIONAL AEROMETRIC DATA BANK
SITE DESCRIPTION INVENTORY
STATE (41): RHODE ISLAND

PAGE 41-0001

SITECODE: 410040001F01
AGENCY PROJECT: F01
AGENCY TYPE: STATE
CITY POPULATION: 17,860
AQCR POPULATION: 1,645,380
EPA-REGION: 1
SUPPORTING AGENCY: RHODE ISLAND DEPARTMENT OF HEALTH
COMMENTS:

LOCATION: BRISTOL
COUNTY (0060): BRISTOL CO
SITE ADDR:REYNOLDS ELEMENTARY SCHOOL
STATION TYPE (22): SUBURBAN - RESIDENTIAL
AQCR (120): METROPOLITAN PROVIDENCE
SMSA (6480): PROVIDENCE-PAWTUCKET-WARWICK, R.I.-MASS

LATITUDE: 41 D. 40 M. 26 S. N
LONGITUDE: 71 D. 16 M. 18. S. W
UTM ZONE: 19
UTM NORTHING: 4615800
UTM EASTING: 00310900
ELEVATION ABOVE GROUND: 040 FT.
ELEVATION ABOVE MSL: 0090 FT.
DIFF. GMT: WEST 05 HOURS

SITECODE: 410065001F01
AGENCY PROJECT: F01
AGENCY TYPE: STATE
CITY POPULATION: 10,087
AQCR POPULATION: 1,645,380
EPA-REGION: 1
SUPPORTING AGENCY: RHODE ISLAND DEPARTMENT OF HEALTH
COMMENTS:

LOCATION: BURRILVILLE
COUNTY (0320): PROVIDENCE CO
SITE ADDR: BURRILVILLE HIGH SCHOOL
STATION TYPE (22): SUBURBAN - RESIDENTIAL
AQCR (120): METROPOLITAN PROVIDENCE
SMSA (6480): PROVIDENCE-PAWTUCKET-WARWICK, R.I.-MASS

LATITUDE: 41 D. 58 M. 9 S. N
LONGITUDE: 71 D. 39 M. 48 S. W
UTM ZONE: 19
UTM NORTHING: 4649500
UTM EASTING: 00279300
ELEVATION ABOVE GROUND: 020 FT.
ELEVATION ABOVE MSL" 0370 FT.
DIFF. GMT: WEST 05 HOURS

Figure 2.3.1.e. Site Description Inventory Report

RAW DATA IN SAROAD FORMAT

General Description

The report creates cards or magnetic tape of the raw data input to the computer in the same form as prepared for input. Figures 2.3.1.f, 2.3.1.g, and 2.3.1.h show the input data formats used for the SAROAD programs.

Retrievals Available

There are several key items upon which retrieval may be made by using the SAROAD Standard Format Selection procedure, including: state, area, site, agency type, AQCR, project classification, pollutant type, method of collection and analysis, sampling interval, and starting and ending dates. Certain combinations of selection keys are prohibited. For example, a site key may be entered only if an area key is also entered, and an area key may be entered only if a state key is also entered. Similarly, a project classification code may be included only if an agency type is also specified, and a method of collection and analysis may be specified only if a pollutant type is also specified. All other combinations may be considered as valid retrieval requests. The period of interest is specified by year and month for the starting and ending dates; for example, "7302 7304" or "6801 7212" would be valid ways of specifying the desired retrieval period. Codes for the various retrieval items are given in Volume V of the AEROS Manual.

Sorts Available

There are no sort options available.

Sample Report

Figures 2.3.1.f through 2.3.1.h give the type and sequencing of data contained in the report. The output is available in the form of punched cards, or on magentic tape, or both.

LESS THAN 24-HOUR SAMPLING INTERVAL

ENVIRONMENTAL PROTECTION AGENCY
National Aerometric Data Bank
P. O. Box 12055
Research Triangle Park
North Carolina 27711

1 Agency

City Name

Site Address

Project

Parameter observed | Method

Time interval of obs. | Units of obs.

State Area Site (2 3 4 5 6 7 8 9 10)

Agency (11) | Project (12 13) | Time (14) | Year (15 16) | Month (17 18)

Parameter code (23 24 25 26 27) | Method (28 29) | Units (30 31) | DP (32)

Day (19 20)	St Hr (21 22)	Rdg 1 (33 34 35 36)	Rdg 2 (37 38 39 40)	Rdg 3 (41 42 43 44)	Rdg 4 (45 46 47 48)	Rdg 5 (49 50 51 52)	Rdg 6 (53 54 55 56)	Rdg 7 (57 58 59 60)	Rdg 8 (61 62 63 64)	Rdg 9 (65 66 67 68)	Rdg 10 (69 70 71 72)	Rdg 11 (73 74 75 76)	Rdg 12 (77 78 79 80)

Figure 2.3.1.f. SAROAD Hourly Data Form

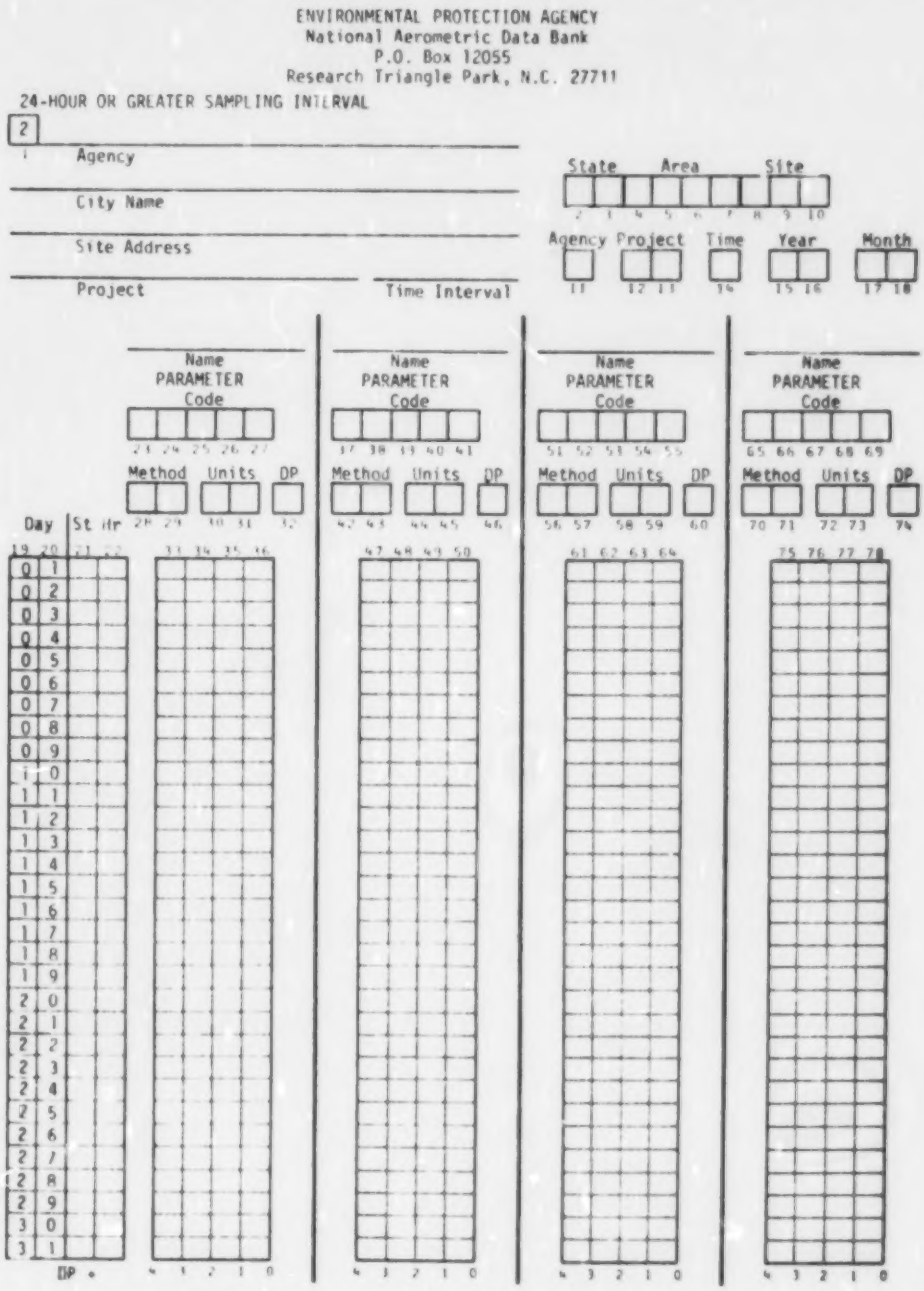

Figure 2.3.1.g. SAROAD Daily Data Form

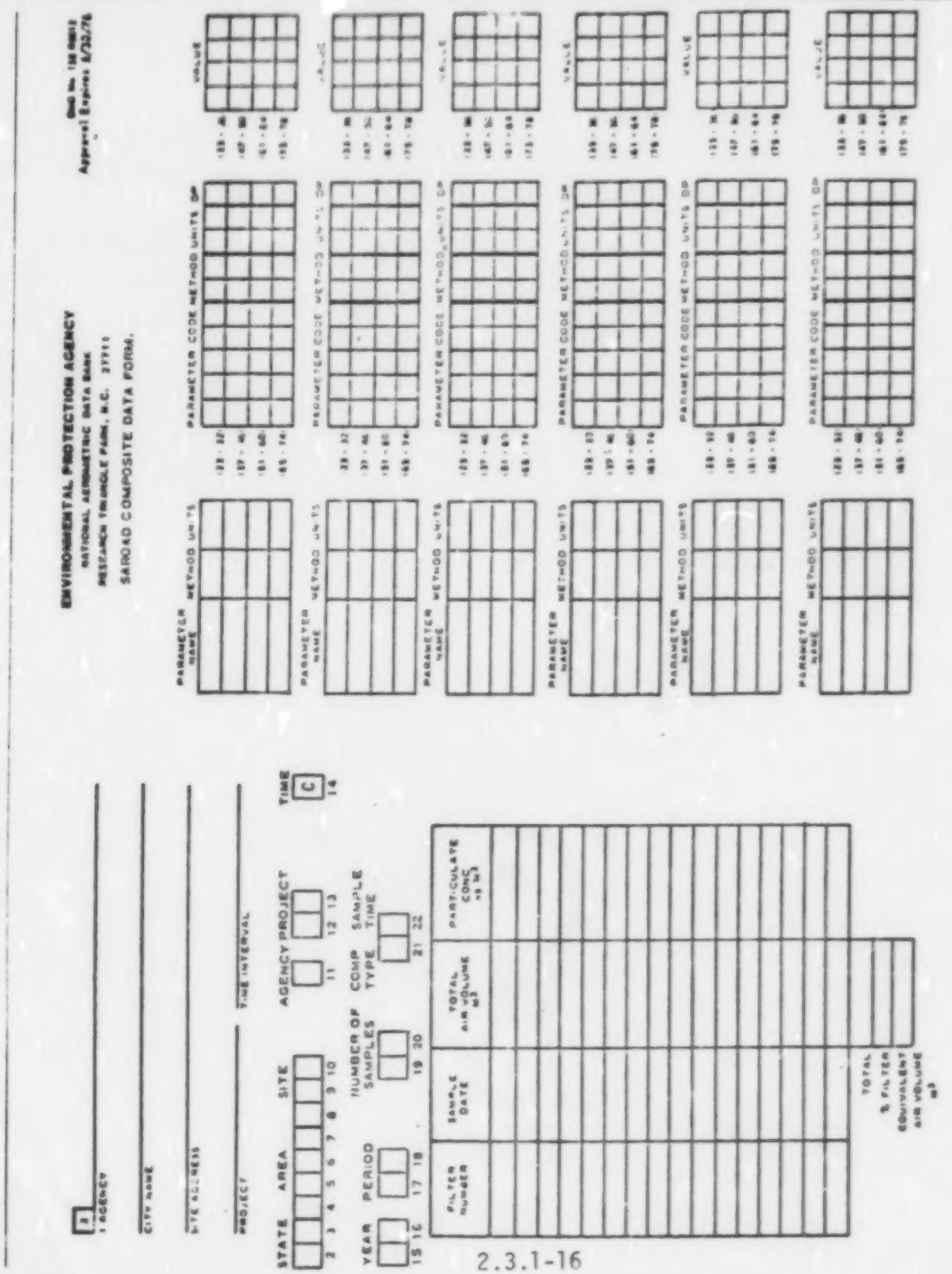

Figure 2.3.1.h. SAROAD Composite Data Form

METEOROLOGICAL RAW DATA REPORT AND PLOT

General Description

This report creates two unique print formats and a plot of meteorological data. The first print format lists the site description at the top of the page, then the parameter-method-unit names, and the raw data values for one month. Each line contains up to 24 raw data values, the mean, and number of observations for each day. This line is repeated for each day in the month. At the bottom of the page, the minimum, maximum, average, and number of observations are given for each hour of the day for that month.

This second printout repeats the site description at the top and the parameter-method-unit names and lists the minimum, the hour of the minimum, the maximum, the hour of the maximum, the mean, and the number of observations for each day of the month.

The plot of the meteorological data is created on CALCOMP plotter or a TEXTRONIX terminal. A separate plot is created for each month of data. The daily minimums, maximums, and means for a specific parameter for each day of the month are plotted with descriptive information on the site and parameter. The plot is a separate report and may be omitted if only the raw data listing is required.

Retrievals Available

The meteorological raw data reports and plots may be retrieved by state, area, site, agency, project, pollutant (only 6XXXX) method units, start and end date, and any appropriate combination of the above.

For the plots, the minimum scale value and a delta value may be specified by the user, or, if omitted, they are calculated by the program. The user can also specify what values (daily minimum, maximum, and/or mean) are plotted.

Sorts Available

No optional Sorts are available for this report. The report is printed according to the order on the file:

state/area/site/agency/project/pollutant/year/month

Sample Report

Figures 2.3.1-i,j,k, show examples for wind speed for a site in Mobile, Alabama, for January 1973.

RUN DATE: JAN 06, 1976 — NATIONAL AEROMETRIC DATA BANK — MONTHLY METEOROLOGICAL DATA REPORT — FOR JAN 1973 — PAGE: 1

SITECODE: 012390008 — LOCATION: MOBILE — LATITUDE: 30 D. 03 M. 17 S. N
AGENCY/PROJECT: 001 — COUNTY (290): MOBILE CO — LONGITUDE: 088 D. 03 M. 32 S. W
AGENCY TYPE: COUNTY — SITE ADDR: WKRG TRANSMITTING SITE TELEGRAPH ROAD — UTM ZONE: 16
CITY POPULATION: 190,026 — STATION TYPE (111): CENTER CITY - INDUSTRIAL — UTM NORTHING: 3390870
AQCR POPULATION: 2,100,000 — AQCR (005): MOBILE-PENSACOLA-PANAMA CITY-SOUTHERN MISSISSIPPI — UTM EASTING: 0878610
EPA-REGION: 4 — SMSA (6160): MOBILE, ALABAMA — ELEVATION ABOVE GROUND: 010 FT.
SUPPORTING AGENCY: MOBILE COUNTY BOARD OF HEALTH — ELEVATION ABOVE MSL: 0006 FT.
COMMENTS: SAMPLERS ON PLATFORM FOR UNIFORM WIND DISTRIBUTION NEAR HEAVILY INDUSTRIALIZED AREA — DIFF. GMT: WEST 06 HOUR.

PARAMETER: WIND SPEED — METHOD: INSTRUMENTAL SPOT READING — UNITS: MILES/HOUR

TIME

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	MEAN	OBS
01	3.0	3.0	3.5	4.5	5.0	5.0	5.0	5.0	5.0	5.5	5.0	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	3.5	3.5	3.5	5.0	24
02	3.0	2.5	3.0	4.0	3.5	4.0	4.0	3.5	4.0	3.5	4.0	4.0	4.0	3.5	3.5	3.5	3.5	2.5	3.0	2.0	.0	2.5	.0	2.0	3.0	24
03	2.0	1.5	1.5	2.0	2.5	3.0	3.0	2.0	3.0	3.5	3.0	3.0	2.0	1.0	2.0	1.5	2.0	2.0	.0	.0	.0	.0	.0	.0	1.4	24
04	.0	.0	1.5	1.5	.0	2.0	1.0	1.5	3.5	3.5	3.0	3.0	3.0	3.0	2.0	2.0	2.0	3.0	3.0	4.0	3.0	2.0	1.0	1.0	2.1	24
05	2.0	3.0	3.0	3.0	.0	.0	.0	2.0	2.0	2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.7	24
06	.0	.0	.0	.0	1.0	4.0	1.0	2.5	3.5	3.5	4.0	3.5	3.5	3.5	4.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	.0	3.0	24
07	3.5	4.5	4.5	3.5	3.0	3.0	3.5	3.0	4.0	3.0	3.0	3.0	2.5	2.5	2.5	3.5	3.0	3.0	3.0	.0	.0	3.0	4.0	3.0	2.9	24
08	2.0	5.0	3.0	4.0	4.0	4.0	4.0	4.5	4.0	5.0	5.0			5.0	5.5	5.0	5.0	5.0	5.0	5.0	4.5	4.0	4.0	4.5	4.9	22
09	4.0	4.0	3.0	3.5	3.0	4.0	3.0	3.0	4.0	3.0	3.5	3.5	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.5	3.5	3.0	3.0	3.0	3.6	24
10	3.0	.0	3.0	3.0	3.0	2.5	3.0	2.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.5	3.0	3.0	3.0	2.0	2.7	24
11	3.0	2.5	2.5	2.0	3.0	3.0	3.0	4.0	4.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	3.5	3.5	4.0	4.0	4.0	4.0	4.0	4.0	3.8	24
12	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	3.5	3.0	2.0	2.0	2.0	1.5	1.0	1.0	1.5	3.4	24
13	1.5	1.5	.0	1.5	1.0	1.5	1.5	2.0	2.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.0	.0	.0	.0	1.1	24
14	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	3.0	3.0	2.0	1.5	1.5	1.5	1.5	.0	.0	.0	.0	.0	.0	.0	.6	24
15	.0	.0	.0	.0	1.5	2.0	3.0	3.0	4.0	4.0	4.0	3.5	3.5	3.0	3.0	2.0	.0	.0	.0	.0	.0	.0	.0	.0	1.8	24
16	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.5	2.5	2.0	1.5	1.5	2.0	.0	.0	.0	.0	.0	.0	.0	.0	.6	24
17	.0	.0	.0	.0	.0	.0	2.5	.0	.0	.0	2.0	2.0	3.0	2.5	3.0	3.0	1.0	3.0	2.0	2.0	2.0	1.0	.0	1.0	1.3	24
18	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.0	2.0	2.0	1.5	1.5	1.5	2.0	1.5	1.5	1.5	2.0	2.0	1.0	3.0	2.0	1.2	24
19	2.5	2.0	2.5	2.0	.0	2.0	2.0	3.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0	.0	.0	.0	.0	.0	.0	.0	.0	1.7	24
20	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.5	3.0	2.0	3.0	2.5	2.5	2.5	2.5	1.0	3.0	3.0	4.0	4.0	1.5	24
21	3.5	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.0	4.0	4.0	5.0	3.0	3.0	3.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.8	24
22	1.0	1.0	.0	.0	.0	.0	.0	.0	2.0	2.0	3.0	3.0	3.0	3.0	3.0	2.5	2.0	1.5	1.0	.0	.0	.0	.0	.0	1.1	24
23	.0	.0	.0	.0	.0	.0	1.5	3.0	4.0	3.0	3.0	3.0	3.0	3.0	2.0	2.0	.0	.0	.0	.0	.0	.0	3.0	3.0	1.3	24
24	3.5	4.0	4.0	4.0	3.0	3.0	2.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	1.5	.0	.0	.0	.0	.0	2.3	24
25	.0	.0	.0	.0	.0	.0	.0	2.0	3.0	3.0	2.0	2.5	3.0	3.0	2.0	2.0	2.0	2.5	2.0	2.0	2.0	3.0	3.5	4.0	1.8	24
26	4.0	4.0	3.0	3.0	2.0	2.0	2.0	1.5	1.5	3.0	4.0	5.0	4.0	3.5	3.5	3.0	2.0	2.0	1.5	1.5	2.0	2.0	2.0	.0	2.6	24
27	.0	.0	.0	.0	.0	.0	.0	.0	1.0	1.0	2.5			2.0	2.0	1.0	1.0	2.0	2.0	3.0	2.5	3.0	3.5	1.2	22
28	3.0	2.0	2.0	.0	.0	3.0	3.0	3.5	4.0	4.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0	3.0	3.5	3.5	3.5	3.0	2.8	24
29	3.0	3.5	3.5	3.5	3.5	3.5	3.0	3.5	3.0	3.0	3.0	3.0	3.0	3.0	2.5	2.5	2.0	2.0	2.0	1.0	.0	.0	.0	.0	2.1	24
30	.0	.0	.0	.0	.0	.0	1.0	1.0	2.0	2.0	1.0	2.5	2.5	3.0	3.0	1.5	1.0	.0	1.5	1.5	1.5	1.5	.0	.0	1.1	24
31	.0	.0	.0	.0	.0	.0	.0	1.5	1.5	1.5	.0	2.0	2.5	3.0	3.0	3.0	3.0	3.5	3.5	3.5	4.0	4.0	3.5	3.0	1.8	24
MIN	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	
MAX	5.0	5.0	5.0	5.0	5.0	6.0	6.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	5.0	
AVG	1.6	1.7	1.6	1.7	1.6	1.9	2.0	2.3	2.7	2.7	2.8	3.0	2.9	2.8	2.7	2.6	2.3	2.0	2.0	1.7	1.6	1.7	1.8	1.6		
OBS	31	31	31	31	31	31	31	31	31	31	31	29	29	31	31	31	31	31	31	31	31	31	31	31		

Figure 2.3.1-i. Meteorological Raw Data Report.

Figure 2.3.1-j. Meteorological Raw Data Report.

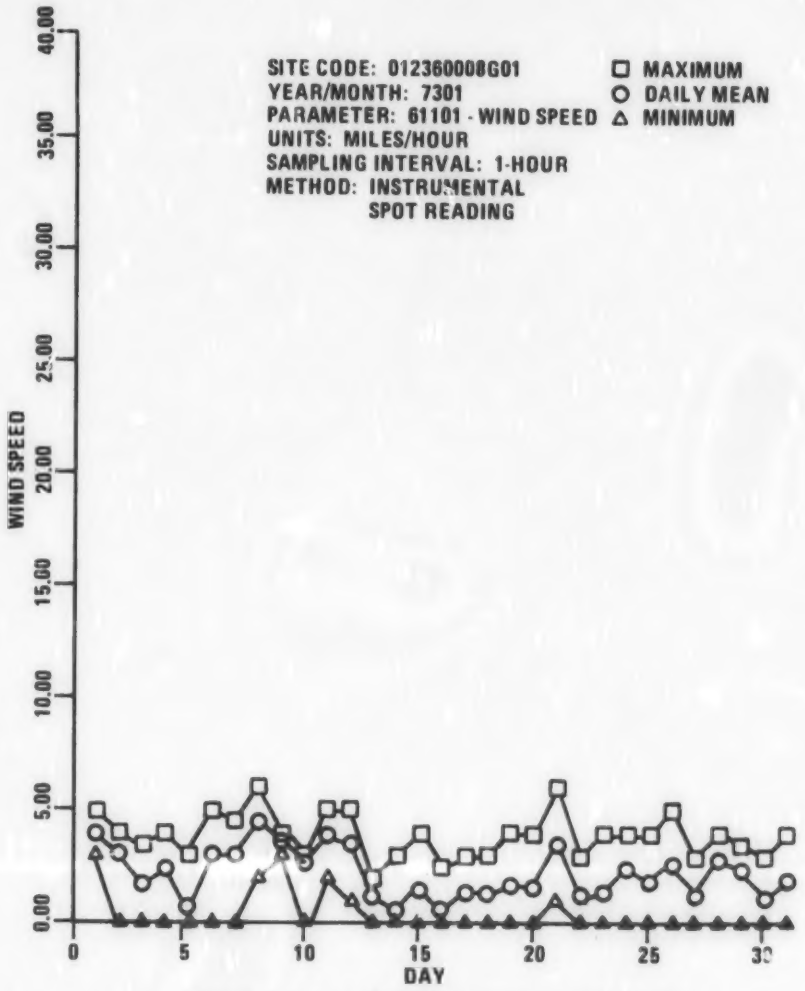

Figure 2.3.1-k. Meteorological raw data plot.

YEARLY FREQUENCY DISTRIBUTION

General Description

This report lists the site description and annual summary information for all data that satisfy the retrieval criteria. The site description is repeated at the top of each page, followed by the data. The site description gives the geographical information necessary to locate the site and is separated from the data by a data heading. Below the data heading, the codes and names are given for the pollutant, the sampling and analysis methods, the sampling interval, and the standard units in which the data are printed. The data items include: the year of the data; the percent of observations for continuous data; the number of observations; the number of primary and secondary violations of the NAAQS's; the minimum detectable for the sampling method; the minimum, maximum and second maximum observations; the 10, 30, 50, 70, 90, 95, and 99 percentiles; the arithmetic mean; the geometric mean; and the geometric standard deviation. The number of violations of the NAAQS's represents the number of violations of the short term standards. For the running averages, the number of violations are for non-overlapping running averages.

The retrieval and print options which are based on summary criteria are: (1) print all data which meet other selection criteria but do not print the means and standard deviation when summary criteria are not met (default), (2) print all data which meet other selection criteria and

flag the statistics when summary criteria are not met, (3) print only data which meet summary criteria, or (4) print only data which fail the summary criteria.

Retrievals Available

The report is generated from data which satisfy the following selection criteria: nation, state, area, site, agency, project, pollutant, method, interval, begin year, end year, AQCR, and county.

Most combinations of the above selection criteria are valid but the following combinations are invalid: (1) area or county without state, (2) site without state/area, (3) project without agency, and (4) method without pollutant.

The difference between a state/area and a state/county retrieval is important--a state/area selection will only give the sites which are in that area (city) while a state/county selection will give all state/area combinations located in that county.

Sorts Available

This report may be sorted in ascending (default) or descending order by the following options: state, area, site, agency, project, AQCR, pollutant, method, units, interval, year, pollutant value, and county code. For this report, the pollutant value sort is on the yearly

maximum observed value. Any number of sorts can be specified in any desired order, but certain sort combinations may produce a confusing report.

Sample Report

Figure 2.3.2.a shows a Yearly Frequency Distribution Report for particulate, carbon monoxide, sulfur dioxide and ozone for a site in Providence, Rhode Island.

"*" Denotes a value derived from data which do not meet SAROAD summarizations criteria of OAQPS Guideline 1.2-040, Sec. 2.3.

Figure 2.3.2.a. Yearly Frequency Distribution Report

QUARTERLY FREQUENCY DISTRIBUTION

General Description

This report lists the site description and quarterly summary information for all data that satisfy the retrieval criteria. The site description is repeated at the top of each page, followed by the data. The site description gives the geographical information necessary to locate the site and is separated from the data by a data heading. Below the data heading, the codes and names are given for the pollutant, the sampling and analysis methods, the sampling interval, and the standard units in which the data are printed. The data items include: the year/quarter of the data; the percent of observations for continuous data; the number of observations; the number of primary and secondary violations of the NAAQS's; the minimum detectable for the sampling method; the minimum, maximum, and second maximum observations; the 10, 30, 50, 70, 90, 95, and 99 percentiles, the arithmetic mean; the geometric mean; and the geometric standard deviation. The number of violations of the NAAQS's represents the number of violations of the short term standards, and for the running averages, the number of violations are for non-overlapping running averages.

The retrieval and print options which are based on summary criteria are: (1) print all data which meet other selection criteria but do not print the means and standard deviation when summary criteria are not met (default), (2) print all data which meet other selection criteria and

flag the statistics when summary criteria are not met, (3) print only data which meet summary criteria, or (4) print only data which fail the summary criteria.

Retrievals Available

The report is generated from data which satisfy the following selection criteria: nation, state, area, site, agency, project, pollutant, method, interval, begin year-quarter, end year-quarter, AQCR and county.

Most combinations of the above selection criteria are valid but the following combinations are invalid: (1) area or county without state, (2) site without state/area, (3) project without agency, and (4) method without pollutant.

The difference between a state/area and a state/county retrieval is important--a state/area selection will only give the sites which are in that area (city) while a state/county selection will give all state/area combinations located in that county.

Sorts Available

This report may be sorted in ascending (default) or descending order by the following options: state, area, site, agency, project, AQCR, pollutant, method, units, interval, year, quarter, pollutant

value, and county code. For this report, the pollutant value sort is on the quarterly maximum observed value. Any number of sorts can be specified in any desired order, but certain sort combinations would produce a confusing report.

Sample Report

Figure 2.3.2.b shows a Quarterly Frequency Distribution Report for particulate and carbon monoxide for a site in Providence, Rhode Island.

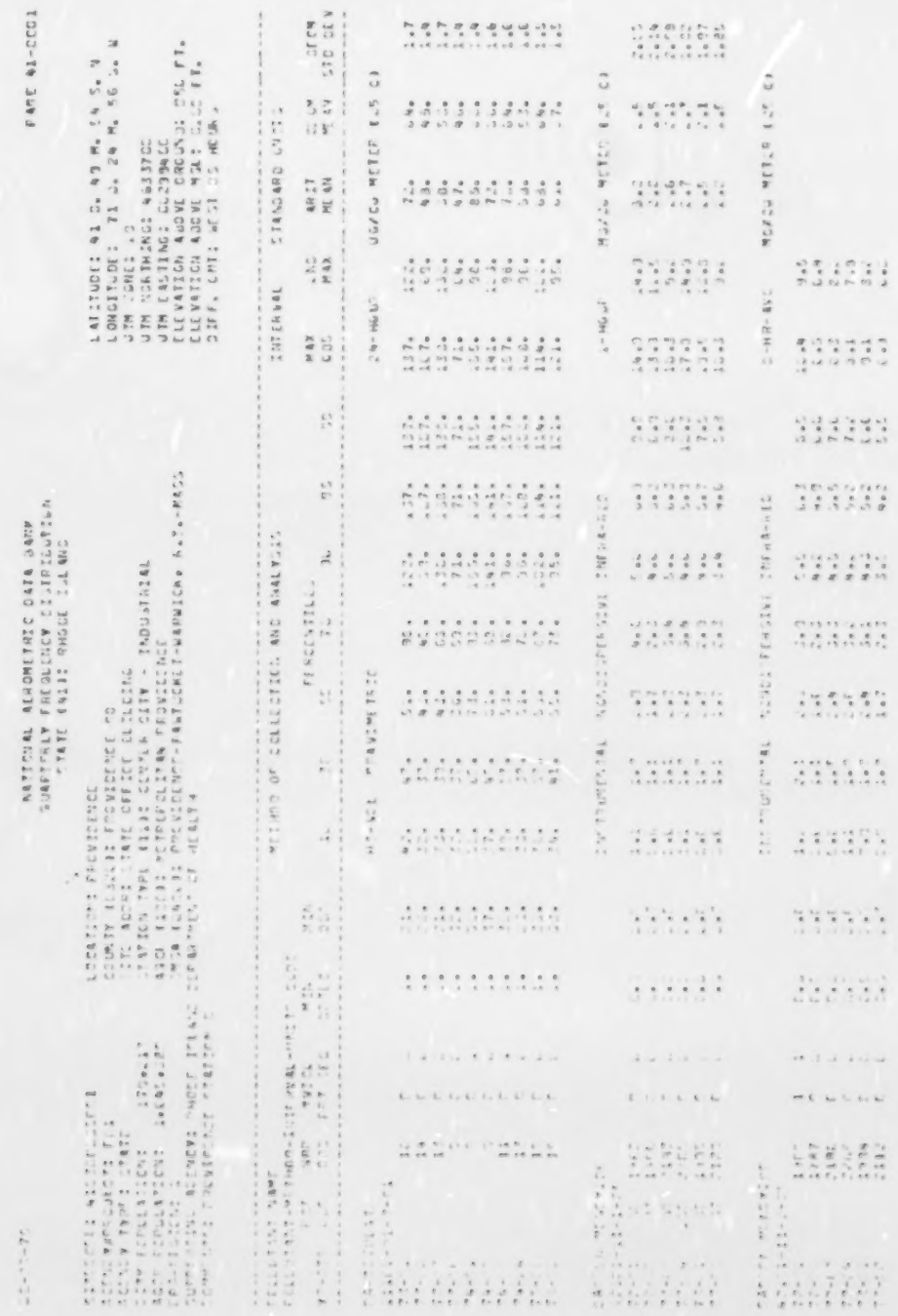

Figure 2.3.2.b. Quarterly Frequency Distribution Report

YEARLY REPORT BY QUARTERS

General Description

This report lists the site description and selected summary information for the year and for the individual quarters. The site description is repeated at the top of each page, followed by the data heading and data for each pollutant-year selected. The site description gives the geographical information necessary to locate the site. Below the data heading, the codes and names are given for the pollutant, the sampling and analysis methods, the sampling interval, and the standard units in which the data are printed. The data items include: the year of the data; the percent of observations for continuous data; the minimum detectable limit for the method; the arithmetic mean, arithmetic standard deviation, minimum observation, and maximum observation for the year, and the number of observations and arithmetic mean for each quarter.

The retrieval and print options, which are based on summary criteria, are: (1) print all data which meet other selection criteria but do not print quarterly and yearly statistics which do not meet the summary criteria, (2) print all data which meet other selection criteria and flag the statistics when summary criteria are not met, or (3) print only data which fail the summary criteria with flags on the data.

Retrivals Available

The report may be retrieved based on the following selection criteria: nation, state, area, site, agency, project, pollutant, method, interval, begin year, end year, AQCR, and county.

Most of the combinations of the above selection criteria are valid but the following selections are invalid: (1) area or county without state, (2) site without state/area, (3) project without agency, and (4) method without pollutant.

Sorts Available

This report may be sorted in ascending (default) or descending order by the following options: state, area, site, agency, project, AQCR, pollutant, method, units, interval, year, pollutant value, and county code. For this report, the pollutant value sort is on the yearly maximum observed value. Any number of sort options can be specified in any desired order but certain sort combinations would produce a confusing report.

Sample Report

Figure 2.3.2.c shows a Yearly Report by Quarters for particulate, carbon monoxide, sulfur dioxide, and ozone for a site in Providence, Rhode Island.

09-FS-7C

NATIONAL AEROMETRIC DATA BANK
YEARLY REPORT BY QUARTERS
STATE (41): RHODE ISLAND

PAGE 41-0001

SITECODE: 410300[illegible]
AGENCY/PROJECTS CO:
AGENCY TYPE: STATE
CITY POPULATION: [illegible]
AQCR POPULATION: [illegible]
EPA REGION: 1
SUPERVISING AGENCY: RHODE ISLAND DEPARTMENT OF HEALTH
COMMENTS: PROVIDENCE STATION 0

LOCATION: PROVIDENCE
COUNTY (CODE): PROVIDENCE CO
SITE ADDR: STATE OFFICE BUILDING
STATION TYPE (CL): CENTER CITY - INDUSTRIAL
AQCR (CODE): METROPOLITAN PROVIDENCE
CMSA (CODE): PROVIDENCE-PAWTUCKET-WARWICK, R.I.-MASS

LATITUDE: 41 D. 49 M. 54 S. N
LONGITUDE: 71 D. 24 M. 56 S. W
UTM ZONE: 19
UTM NORTHING: 4633700
UTM EASTING: 0029900
ELEVATION ABOVE GROUND: 050 FT.
ELEVATION ABOVE MSL: 0100 FT.
DIFF. GMT: WEST 05 HOURS

YEAR	POLLUTANT / METHOD / INTERVAL AND UNITS	PERCENT ADC	MIN DETEC LEVEL	YEARLY ARITHMETIC MEAN	YEARLY GEOMETRIC MEAN	YEARLY GEO STD DEV	EXTREMES MIN OBS	EXTREMES MAX OBS	1ST QUARTER NUM OBS	1ST QUARTER ARIT MEAN	2ND QUARTER NUM OBS	2ND QUARTER ARIT MEAN	3RD QUARTER NUM OBS	3RD QUARTER ARIT MEAN	4TH QUARTER NUM OBS	4TH QUARTER ARIT MEAN
76	PARTICULATE															
	[illegible]		1.	7.	[illegible]	[illegible]	13.	137.	0	85.	9	74.	11	70.	13	58.
	HI-VOL DRAWINGFILE															
	24-HOUR [illegible] (MG/M3)															
75	CARBON MONOXIDE															
	421[illegible]	87	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1998	[illegible]	2128	[illegible]				
	ENVIRONMENTAL [illegible] INFRA-RED															
	1-HOUR [illegible] (MG/M3)															
76	SULFUR DIOXIDE															
	42[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.	388.	1657	44.	1710	43.	1523	29.	1345	70.
	ENVIRONMENTAL [illegible]															
	1-HOUR [illegible] (MG/M3)															
75	SULFUR DIOXIDE															
	42[illegible]	9	[illegible]	[illegible]	[illegible]	[illegible]	10.	4.7.	1833	33.	291	46.*				
	ENVIRONMENTAL [illegible]															
	1-HOUR [illegible] (MG/M3)															
74	[illegible]															
	4[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]	10.	107.	1145	24.*	1893	33.			1429	14.*
	ENVIRONMENTAL [illegible]															
	1-HOUR [illegible] (MG/M3)															

Figure 2.3.2.c. Yearly Report by Quarters

METEOROLOGICAL AND POLLUTANT SUMMARY STATISTICS PLOT

General Description

This report creates a plot on a CALCOMP plotter or a TEXTRONIX terminal of one of four different combinations of averages of quarterly means for up to 50 sites. The four different combinations are: (1) one meteorological parameter summarized over a specified time period, (2) one meteorological parameter and one pollutant summarized over a time period, (3) two meteorological parameters summarized over a time period, and (4) two meteorological parameters and one pollutant summarized over a time period.

The plot format has a title (at the top) that is supplied by the requestor. Under this title is a list of the sites used in the averages with space for a maximum of 12 sites. Under the site ID's is the list of pollutant-method-interval-units for the selected pollutants and/or parameters that are plotted.

The plot of the parameters and/or pollutant is given next with all parameters plotted on one axis system. The X-axis is utilized for the time scale and the Y-axis is utilized for the parameter or pollutant scale. The minimum scale value and the delta value may be supplied for each parameter or pollutant, or they will be calculated by the plot program.

Retrievals Available

The summary statistic plots are generated for any of the four combinations of parameters and/or pollutants as given above. The selection criteria required include the specific parameters and/or pollutants, the

site ID (state-area-site-agency-project) for up to 50 sites, and the time period required. The minimum scale value and the delta value may be specified or left to the computer to calculate.

Sorts Available

No optional sorts are available. The plots are created in the same order as requested by the retrieval options.

Sample Report

Figure 2.3.2.d shows an example of a plot of wind speed and direction for two sites. The absence of a plot for CO indicates that the pollutant was not reported.

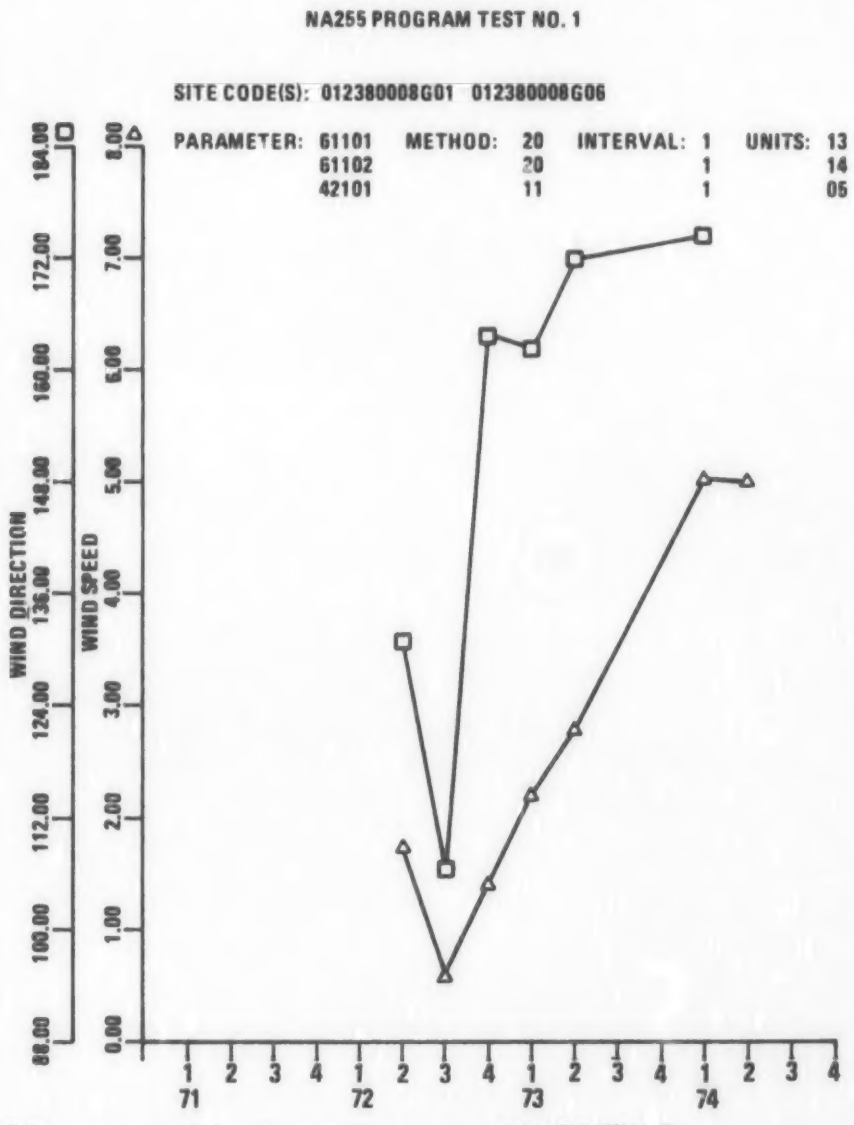

Figure 2.3.2.d. Meteorological and Pollutant Summary Statistics Plot

METEOROLOGICAL AND POLLUTANT FREQUENCY, PERCENT FREQUENCY, AND PLOT REPORTS

General Description

This report creates two unique printouts and a plot on a CALCOMP plotter or TEXTRONIX terminal of two meteorological parameters or a meteorological parameter and a pollutant. The outputs give the frequency of occurrence and percentage frequency of occurrence between a dependent variable and an independent variable. The frequency of occurrence and percentage frequency of occurrence are given for value categories for the dependent and independent variables. Default value categories are included in the program for wind speed, wind direction, dry-bulb temperature, wet-bulb temperature, relative humidity, visibility, and precipitation; and the user must specify the minimum value, increment value, and the number of increments (up to 10) to create the value categories for all other parameters. Any parameter except wind direction may be the dependent variable, and any parameter may be the independent variable.

The program retrieves the specific dependent and independent variables for the site specified for a time period of one month to one year. The dependent and independent variables are sorted by site/month/day and a frequency of occurrence is tabulated for the various value categories. The percentage frequency of occurrence is computed after the frequency of occurrence has been completed.

The program will print the frequency of occurrence and the percentage frequency of occurrence of the dependent and independent variables and create an optional plot of the percentage frequency of occurrence.

A separate page of printout is created for the frequency and percentage frequency reports. The report title is given at the top of the page with the time span covered. Below the time span, a complete site description is printed for the specific site. Below the site description the value categories for the dependent variable are given on the first line and the value categories for the independent are given in the column on the left. The remainder of the report varies with the number of occurrence in each value category given on the frequency report and percentage frequency occurrence in each value category on the percent report. The last column and line give the total number or percent in each value category.

The program will create a single plot of the total percentage frequency of occurrence of the dependent variable versus the independent variable and optional plots of any value categories of the dependent variables as specified by the requestor. The plot gives the site ID, location, time period, sampling interval, the name of the dependent variable, and value category at the top. The actual plot gives the value categories of the independent variable as the scale of the X-axis and the percentage frequency of occurrence as the Y-axis.

Retrievals Available

The user must specify the complete site ID; the dependent and independent variables; the year, month, or quarter; the sampling interval; the reports desired (printout and/or plot); the number of the value categories for the plot; and the minimum value, the increment value, and the number of increments (maximum of 10) to create value categories for parameters that have no default categories.

Sorts Available

No optional sorts are available. The printed reports and plots are created in the same order as requested by the retrieval cards.

Sample Report

Figures 2.3.2.e, 2.3.2.f and 2.3.2.g show examples of the frequency, percentage frequency, and plot of wind speed as the dependent variable, and wind direction as the independent variable for a site in Alabama in 1967.

RUN DATE: JAN 07, 1978

NATIONAL AEROMETRIC DATA BANK
FREQUENCY REPORT
01/01/67 TO 12/30/67

PAGE: 1

SITECODE: 011920001
AGENCY/PROJECT: NB2
AGENCY TYPE: FED NON-MILITARY
CITY POPULATION: 39,287
AQCR POPULATION: 971,433
EPA-REGION: 4
SUPPORTING AGENCY: TENNESSEE VALLEY AUTHORITY
COMMENTS: INS WIDOWS CK STEAM PLANT,ACC ROBUS 72,N 3.6N OR US72,R,60 .4M,L,
60 1.1M,L .2N ST61-2 SO2 ELEV/OR 12° ST41 SEY. PART 8° METEOR 44 °

LOCATION: JACKSON CO
COUNTY (1920): JACKSON CO
SITE ADDR: 3.5 MI NNE OF WIDOWS CREEK POWER PLANT
STATION TYPE (32): RURAL - AGRICULTURAL
AQCR ((07): TENNESSEE RIVER VALLEY-CUMBERLAND MOUNTAINS
SMSA (0000): 0 NOT IN A STANDARD METROPOLITAN STATI

LATITUDE: 35 D. 0 M. 10 S. N
LONGITUDE: 85 D. 42 M. 56 S. W
UTM ZONE: 16
UTM NORTHING: 3865710
UTM EASTING: 0061701O
ELEVATION ABOVE GROUND: 000 FT.
ELEVATION ABOVE MSL: 0630 FT.
DIFF. GMT: WEST 06 HOURS

INTERVAL: 1-HOUR

WIND (DEGREES,	DIRECTION COMPASS)	WIND SPEED (KNOTS) UNDER 4	4 TO 8	8 TO 13	13 TO 19	19 TO 25	25 TO 32	32 TO 39	39 TO 47	47 TO 55	OVER 55	TOTAL
	N	1,728	131	21	0	0	0	0	0	0	59	1,991
	NNE	262	115	20	0	0	0	0	0	0	0	397
	NE	676	87	4	0	0	0	0	0	0	0	767
	ENE	1,040	105	3	0	0	0	0	0	0	0	1,148
	E	359	9	1	0	0	0	0	0	0	0	369
	ESE	106	5	0	0	0	0	0	0	0	0	111
	SE	169	4	0	0	0	0	0	0	0	0	173
	SSE	216	48	7	0	0	0	0	0	0	0	271
	S	232	46	6	0	0	0	0	0	0	0	284
	SSW	277	67	18	3	0	0	0	0	0	0	365
	SW	601	272	61	30	0	0	0	0	0	0	914
	WSW	629	293	83	10	0	0	0	0	0	0	1,011
	W	252	67	34	4	0	0	0	0	0	0	357
	WNW	106	49	15	1	0	0	0	0	0	0	171
	NW	94	60	4	0	0	0	0	0	0	0	158
	NNW	130	64	5	0	0	0	0	0	0	0	283
	TOT	6,877	1,372	284	48	0	0	0	0	0	59	8,608

Figure 2.3.2.e. Meteorological Frequency Report

RUN DATE: JAN 07, 1978 NATIONAL AEROMETRIC DATA BANK PAGE: 8
PERCENT FREQUENCY REPORT
01/01/67 TO 12/30/67

SITECODE: 011920001 LOCATION: JACKSON CO
AGENCY/PROJECT: NBS COUNTY (1920): JACKSON CO
AGENCY TYPE: FED NON-MILITARY SITE ADDR: 3.5 MI NNE OF WIDOWS CREEK POWER PLANT
CITY POPULATION: 39,202 STATION TYPE (32): RURAL - AGRICULTURAL
AQCR POPULATION: 971,433 AQCR (007): TENNESSEE RIVER VALLEY-CUMBERLAND MOUNTAINS
EPA-REGION: 4 SMSA (6000): 0 NOT IN A STANDARD METROPOLITAN STATI
SUPPORTING AGENCY: TENNESSEE VALLEY AUTHORITY
COMMENTS: IMS WIDOWS CK STEAM PLANT.ACC RADIUS 72.N 3.6M ON US72.N.60 .4N.L.
60 1.1N.L .2W ST41-2 SO2 ELEV/OR 12° ST41 SFY. PART 8° METEOR 44 °

LATITUDE: 35 D. 8 M. 14 S. N
LONGITUDE: 85 D. 42 M. 56 S. W
UTM ZONE: 16
UTM NORTHING: 3865710
UTM EASTING: 0061010
ELEVATION ABOVE GROUND: 000 FT.
ELEVATION ABOVE MSL: 0670 FT.
DIFF. GMT: WEST 06 HOURS

INTERVAL: 1-HOUR

WIND DIRECTION (DEGREES)	COMPASS	WIND SPEED (KNOTS) UNDER 4	4 TO 8	8 TO 13	13 TO 19	19 TO 25	25 TO 32	32 TO 39	39 TO 47	47 TO 55	OVER 55	TOTAL
	N	.20	.02	.00	.00	.00	.00	.00	.00	.00	.01	.22
	NNE	.03	.01	.00	.00	.00	.00	.00	.00	.00	.00	.05
	NE	.08	.01	.00	.00	.00	.00	.00	.00	.00	.00	.09
	ENE	.12	.01	.00	.00	.00	.00	.00	.00	.00	.00	.13
	E	.04	.00	.00	.00	.00	.00	.00	.00	.00	.00	.04
	ESE	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01
	SE	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02
	SSE	.03	.01	.00	.00	.00	.00	.00	.00	.00	.00	.03
	S	.03	.01	.00	.00	.00	.00	.00	.00	.00	.00	.03
	SSW	.03	.01	.00	.00	.00	.00	.00	.00	.00	.00	.04
	SW	.07	.03	.01	.00	.00	.00	.00	.00	.00	.00	.11
	WSW	.07	.03	.01	.00	.00	.00	.00	.00	.00	.00	.12
	W	.03	.01	.00	.00	.00	.00	.00	.00	.00	.00	.04
	WNW	.01	.01	.00	.00	.00	.00	.00	.00	.00	.00	.02
	NW	.01	.01	.00	.00	.00	.00	.00	.00	.00	.00	.02
	NNW	.02	.01	.00	.00	.00	.00	.00	.00	.00	.00	.02
	TOT	.00	.16	.03	.01	.00	.00	.00	.00	.00	.01	1.00

Figure 2.3.2.f. Meteorological Percentage Frequency Report

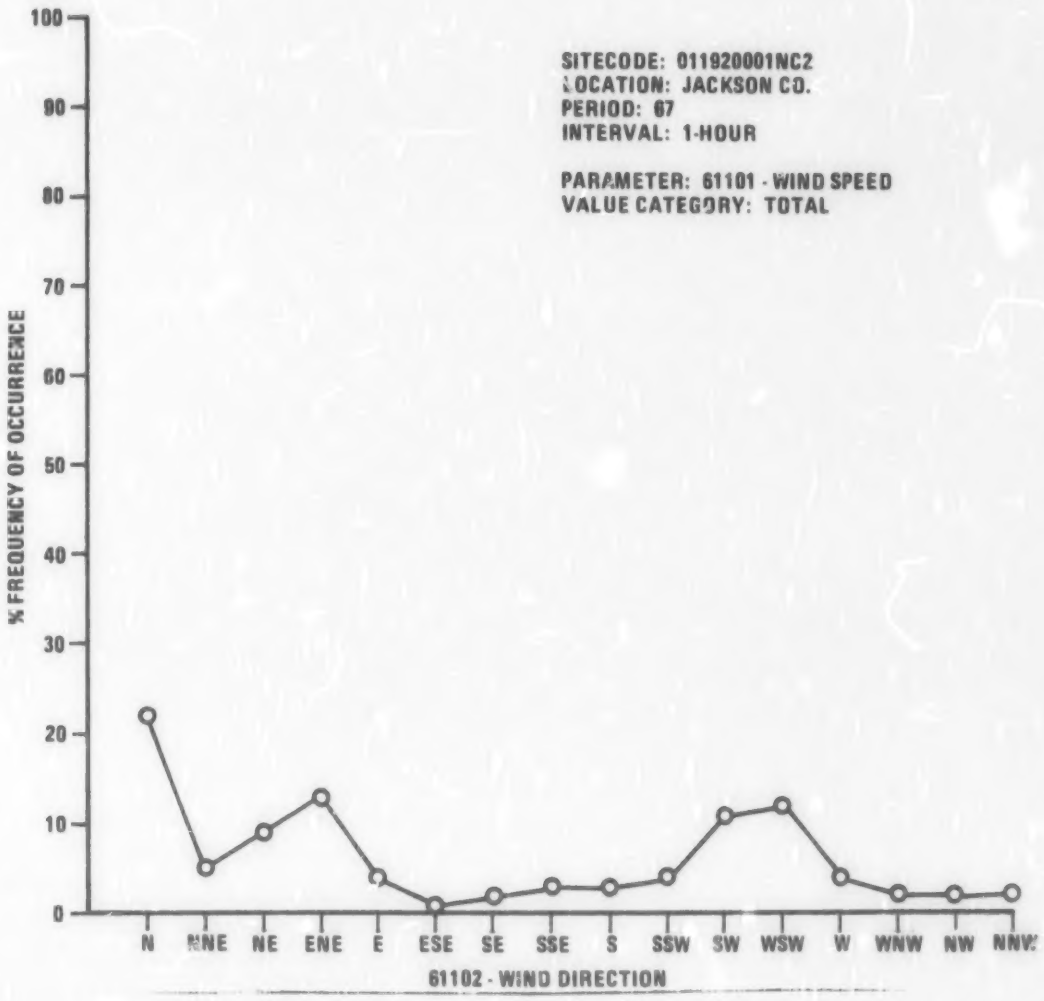

Figure 2.3.2.g. Meteorological Percentage Frequency Plot

INTRODUCTION

The R. L. Polk Company compiles national vehicle registration data annually by collecting county-specific registration data from individual states. These data are computerized by R. L. Polk and sold to user groups in a form specified by that group.

R. L. Polk vehicle registration data were purchased by NADB to be utilized to calculate county-specific emission factors for mobile sources. In addition, report programs have been developed to generate printed reports.

The purchased data include a file containing automotive (light duty vehicle) registration by county and a file containing truck (heavy duty vehicle) registration by county as of July 1973. The automotive registration file contains the number of vehicles by model year and county for 1958-73 model years and county total for pre-1958 model years.

The truck registration file contains the number of vehicles by model year and county for six classes for 1964-73 model years, by model year and county but unclassified for 1958-63 model years, and a county total for pre-1958 model years. The six classes, based on weight, are as follows: (1) Class I = 6,000 lbs. or less, (2) Class II = 6,001 through 10,000 lbs., (3) Class III = 10,001 through 14,000 lbs., (4) Class IV = 14,000 through

19,500 lbs., (5) Class V = 19,501 through 26,000 lbs., and (6) Class VI = 26,001 lbs. and over.

REPORT DESCRIPTION

Separate formats are utilized for automotive and truck reports, but both reports list the data contained on the tape files and calculate the fraction of vehicles for individual categories.

The light duty vehicle report produces a one-page report for each geographical area. The report includes the report title, the name of the geographical area, and four columns of data as follows: the vehicle model year, the vehicle age, the number of vehicles registered by model year, and the fraction of registered vehicles by model year in the specific geographical area.

The heavy duty vehicle report produces a two-page report for each geographical area. The first page includes the report title, the name of the geographical area, and eight columns of data as follows: the vehicle model year, number of registered vehicles by model year for each of the six weight classes, and the number of unclassified vehicles by model year. The second page includes the report title, the name of the geographical area, and nine columns of data as follows: the model year, the vehicle age, the fraction of vehicles in each weight class, and the fraction of all classes by model year. Either or both pages of this report can be requested.

RETRIEVALS AVAILABLE

Both the light and heavy duty vehicle reports have the same retrieval and summary capabilities. The data are retrieved on a state, state/county, or AQCR basis, and the data are summarized by nation, state, state/county, or AQCR.

DATA AVAILABILITY

The R. L. Polk registration data were purchased under an agreement that they would be used only by the U.S. EPA. For this reason, reports showing vehicle registration by county may be distributed only within EPA. Reports which give the number of vehicles for the nation, a state, or an AQCR or which give the fraction of vehicles per model year for any geographical area may be released outside EPA.

EXAMPLE REPORTS

Figure 2.10.5.a shows an example of the light duty vehicle report summarized for the nation. Figure 2.10.5.b shows an example of the heavy duty vehicle report summarized for the nation.

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COUNTY LIGHT DUTY VEHICLE REGISTRATIONS (NUMBER OF VEHICLES) BY MODEL YEAR

(RL POLK DATA - JULY 1973)

NATIONAL SUMMARY

VEHICLE MODEL YEAR	VEHICLE AGE (YEARS)	VEHICLES REGISTERED (NO. OF VEHICLES)	FRACTION OF VEHICLES BY MODEL YEAR *
1977	0	7,306,744	.0684
1976	1	13,361,373	.1128
1975	2	10,561,031	.0869
1974	3	10,495,911	.0982
1973	4	10,763,033	.0952
1972	5	10,130,240	.0920
1971	6	7,022,014	.0795
1970	7	7,233,104	.0629
1969	8	10,621,117	.0750
1968	9	6,838,047	.0559
1967	10	10,643,811	.0612
1966	11	10,431,866	.0275
1965	12	1,244,037	.0141
1964	13	396,241	.0037
1963	14	533,033	.0060
1962	15	263,562	.0030
PRIOR TO 1962	14+	10,706,503	.0197
YEAR NOT GIVEN		132,374	
TOTAL		88,351,766	

* THE AUTOMOBILES FOR WHICH MODEL YEAR WAS NOT GIVEN ARE EXCLUDED FROM THE TOTAL.

Figure 2.10.5.a. Polk Light Duty Vehicle Report

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COUNTY HEAVY DUTY VEHICLE REGISTRATIONS BY MODEL YEAR AND WEIGHT CLASS

(RL POLK DATA - JULY 1972)

NATIONAL SUMMARY

VEHICLE REGISTRATIONS (NUMBER OF VEHICLES) **

VEHICLE MODEL YEAR	CLASS I	CLASS II	CLASS III	CLASS IV	CLASS V	CLASS VI	UNCLASSIFIED
1977	1,121,941	403,811	44,837	44,944	112,823	124,667	
1976	1,464,715	370,911	46,742	72,844	145,432	136,339	
1975	1,511,952	411,774	44,644	74,522	155,214	155,320	
1974	952,774	277,341	44,744	47,127	111,934	102,663	
1973	1,174,731	353,311	44,541	54,534	135,863	126,634	
1972	794,542	215,414	34,247	34,277	87,211	88,703	
1971	1,134,511	271,411	44,744	44,544	144,543	30,674	
1970	1,134,731	241,442	44,744	44,944	134,341	74,665	
1969	744,411	177,444	34,137	34,341	74,555	61,141	
1968	611,747	174,434	34,341	44,277	74,344	54,667	
1967							711,711
1966							644,111
1965							95,944
1964							47,744
1963							44,611
1962							24,644
PRIOR YEARS							24,111,744
YEAR NOT GIVEN							144,147
TOTALS	9,411,411	2,777,111	374,944	444,344	1,144,144	1,144,144	5,111,111

** CLASSES ARE AS FOLLOWS --- CLASS I = 6,001 LBS OR LESS, CLASS II = 6001 THRU 10000 LBS, CLASS III = 10001 THRU 14000 LBS, CLASS IV = 14001 THRU 19500 LBS, CLASS V = 19501 THRU 26000 LBS, CLASS VI = 26001 LBS AND OVER

Figure 2.10.5-b. Polk Heavy Duty Vehicle Report

Figure 2.10.5.b
Polk Heavy Duty Vehicle Report (continued)

This is the second NEDS routine publication. It is published annually concurrently with the National Emissions Report (NER). The source document for this publication is the NEDS Annual Fuel Summary Report. See page 2.1.2-3 for an example of the format of the report. The NEDS Fuel Use Report presents data in the format of the NEDS Annual Fuel Summary Report for the nation and each of the 55 states and territories included in NEDS.

One recent application of the data compiled by the FPC-67 system has been to relate emissions characteristics for conventional combustion systems to boiler type and boiler design characteristics. For this purpose, the FPC-67 file was obtained in computer-readable form (tape), and the data contained therein were categorized and summarized by the following classifications:

- o Boiler size
- o Furnace type
- o Fuel(s) burned
- o Firing patterns
- o Fly ash reinjection (yes or no)

The information summarized in this classification included the following:

- o Fuel consumption
- o Steam and electric capacity
- o Age
- o Emissions

There are many areas in which EPA or other Federal, state, or local agencies may use these data. For instance, NO_x emissions and control method effectiveness appear to be related to boiler size, furnace type, and firing pattern. Therefore, the Control System Laboratory of EPA may use the data to prioritize NO_x control research and development programs. Similarly, particulate emissions and control device performance are affected by furnace types and the data summaries may help to plan testing and development efforts. Other agencies or groups may use the summaries

for emission factor improvements (including trace elements), estimating effects of various fuel switching strategies, and planning combustion technology research and development.